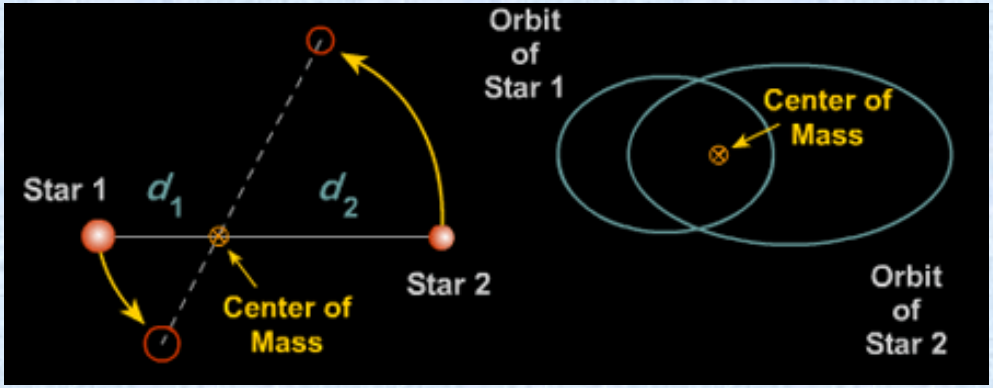
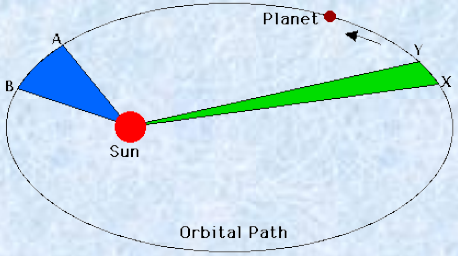
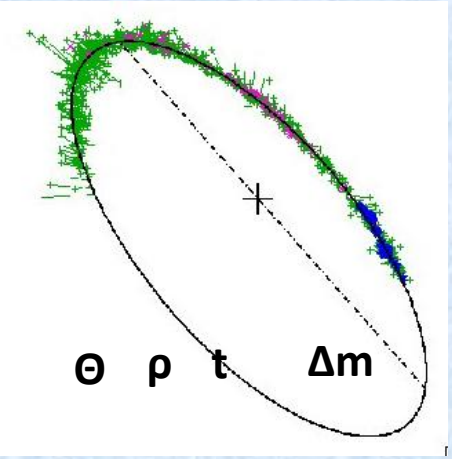
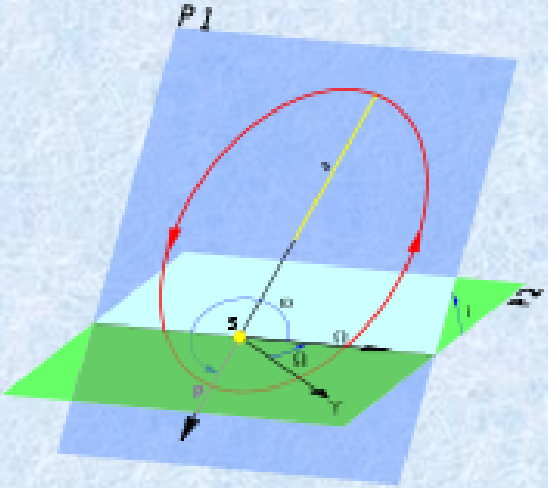
Speckle Interferometry Observing Program

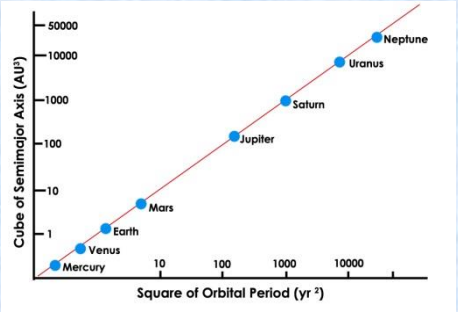
Russ Genet
California Polytechnic State University



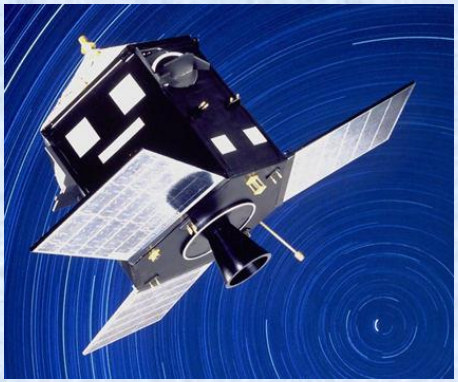


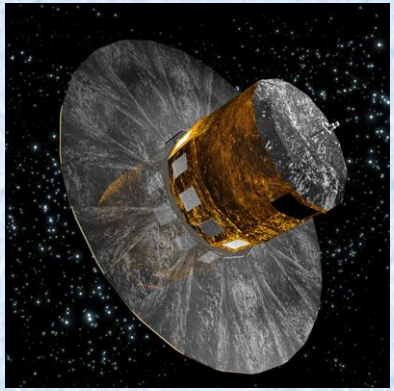


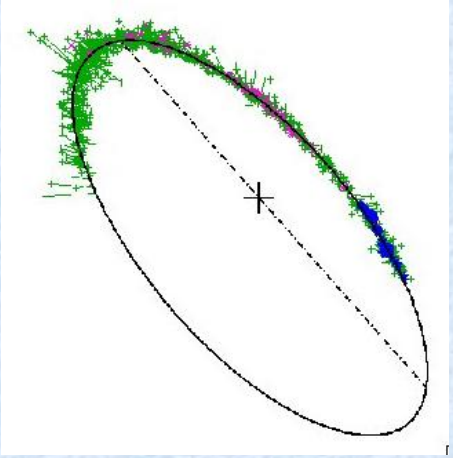


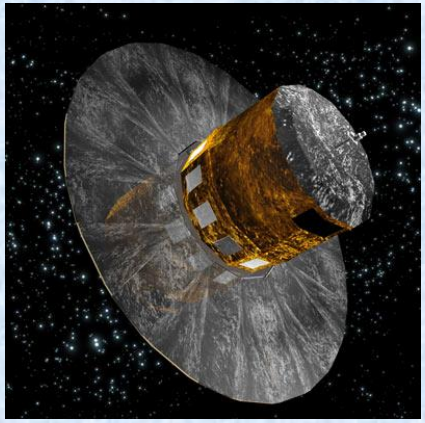


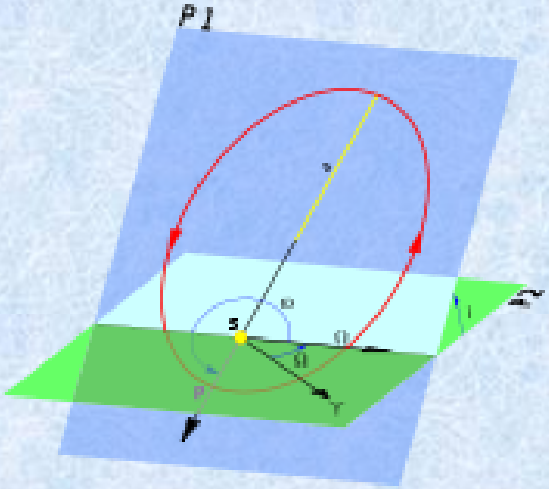
$$P^2 = \left[\frac{4\pi^2}{G(M+m)}\right] a^3$$





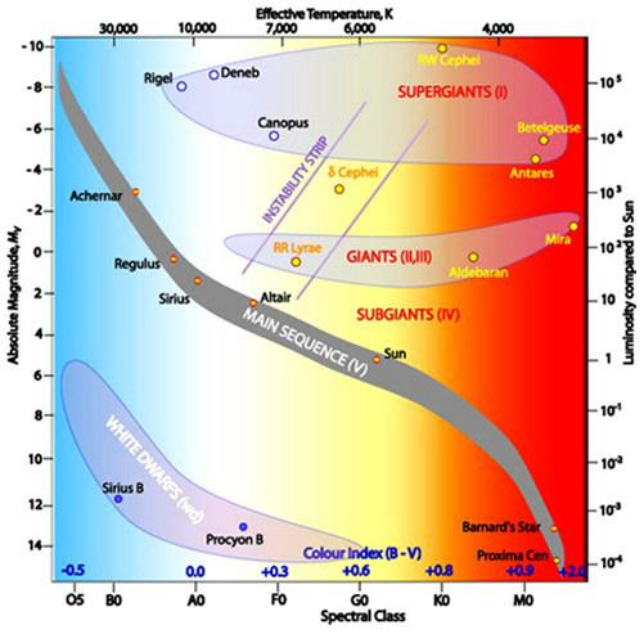




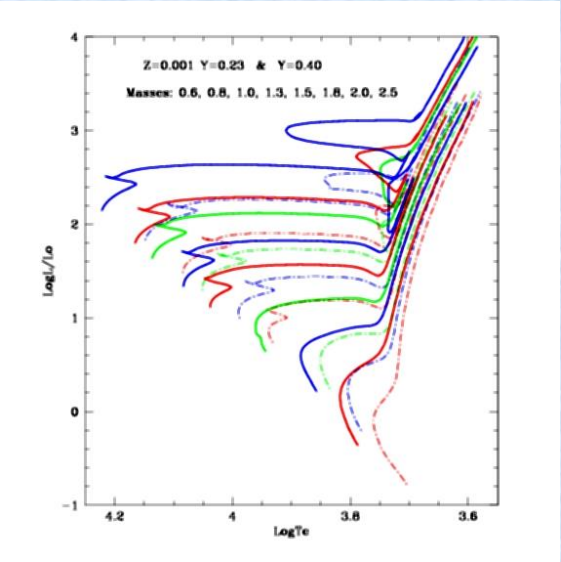


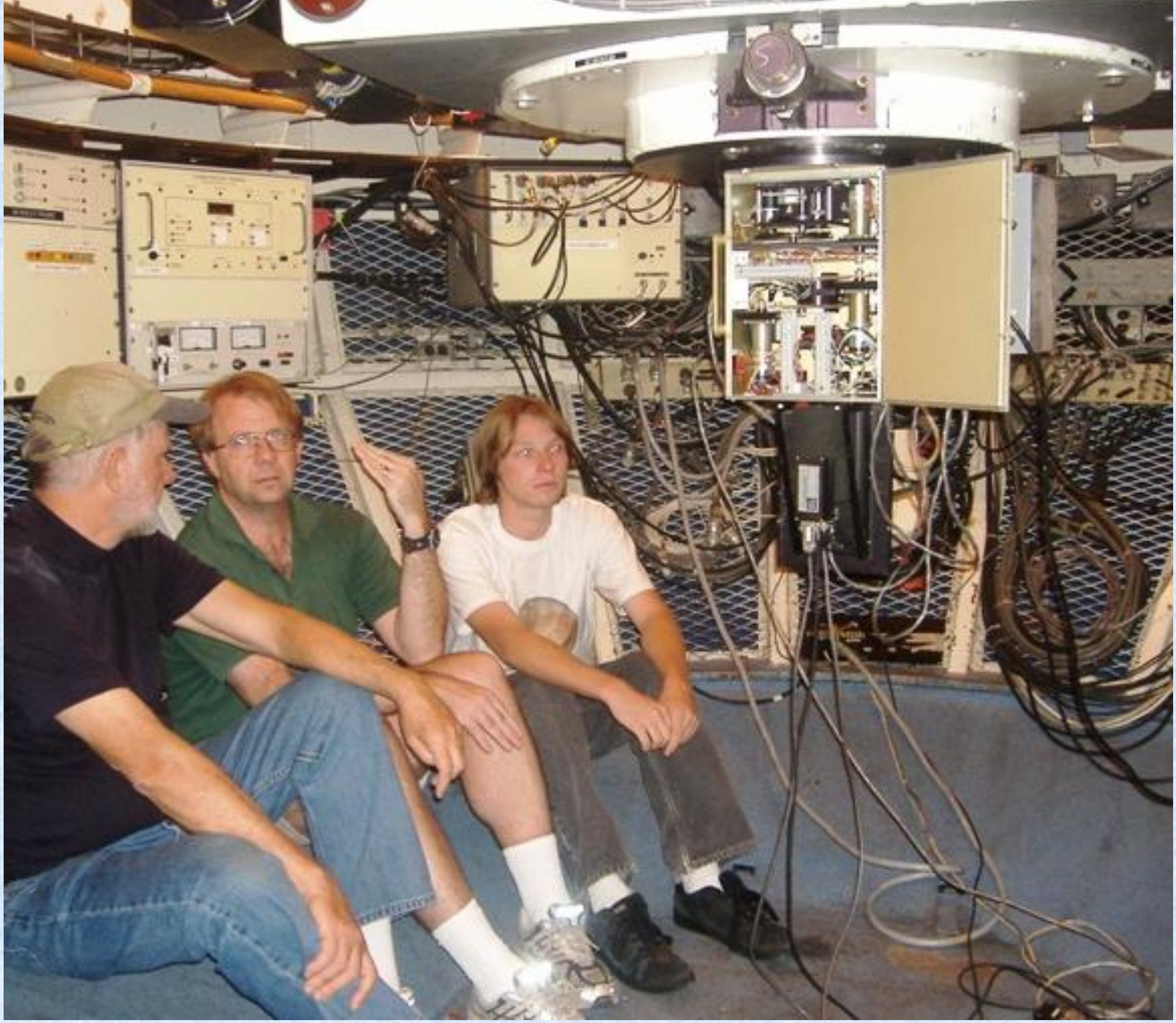
ϴ, ρ, t, Δm **Parallax** **P, a, M_1 M_2**

- Confirm Hipparcos/Tyco candidates
- Refine existing orbits
- Determine new orbits
- Classify new pairs (curved vs linear)
- Differential photometry


Effective Temperature, K
30,000
10,000
7,000
6,000
4,000
Absolute Magnitude, M_V
Luminosity compared to Sun
Rigel
Deneb
RW Cephei
SUPERGIANTS (I)
Canopus
Betelgeuse
Antares
INSTABILITY STRIP
δ Cephei
Achernar
RR Lyrae
GIANTS (II,III)
Mira
Aldebaran
Regulus
Sirius
Altair
SUBGIANTS (IV)
MAIN SEQUENCE (V)
Sun
WHITE DWARFS (wd)
Sirius B
Procyon B
Barnard's Star
Proxima Cen
Colour Index (B - V)
-0.5
0.0
+0.3
+0.6
+0.8
+0.9
+2.0
O5
B0
A0
F0
G0
K0
M0
Spectral Class

2006. 09. 21


Z=0.001 Y=0.23 & Y=0.40
Masses: 0.6, 0.8, 1.0, 1.3, 1.5, 1.8, 2.0, 2.5
LogL/Lo
LogTe



LCOGT

Shutter Interfac
Sci-in Tech
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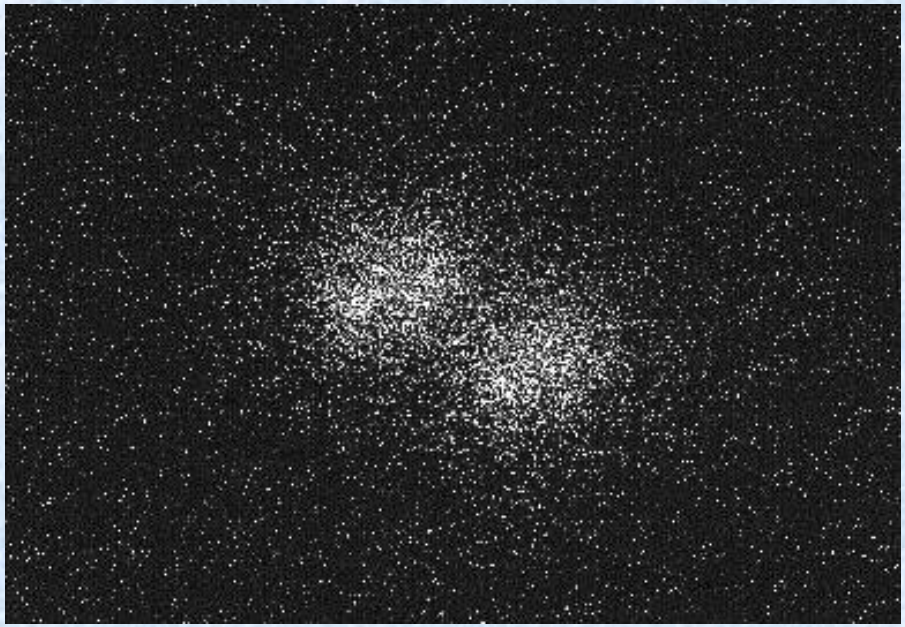
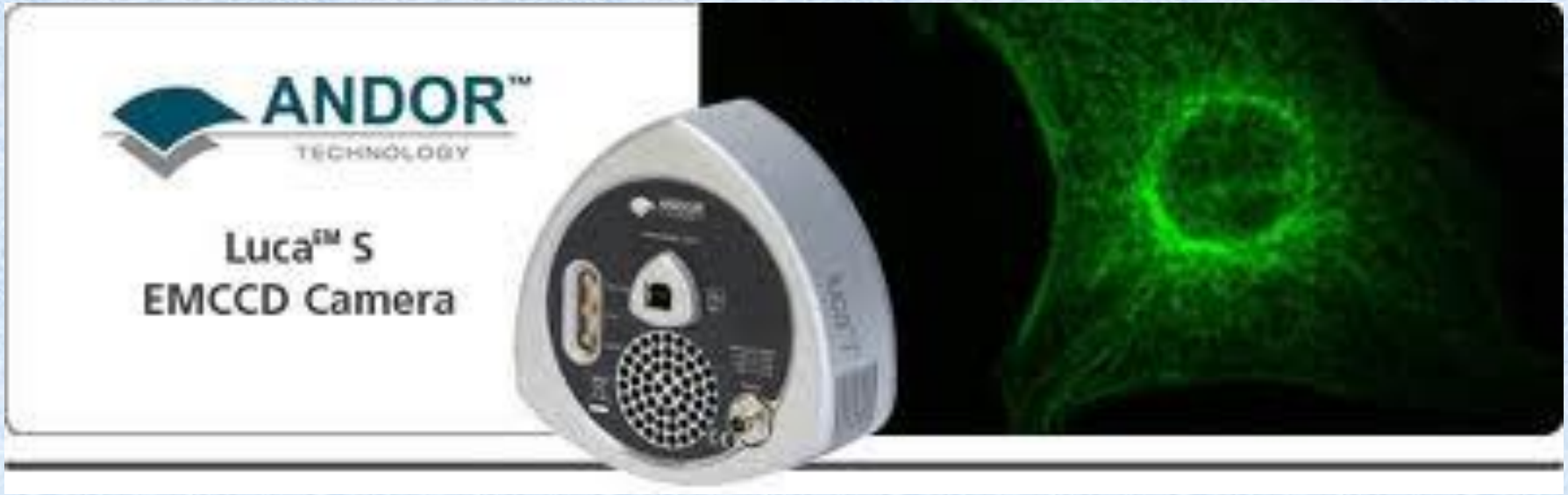
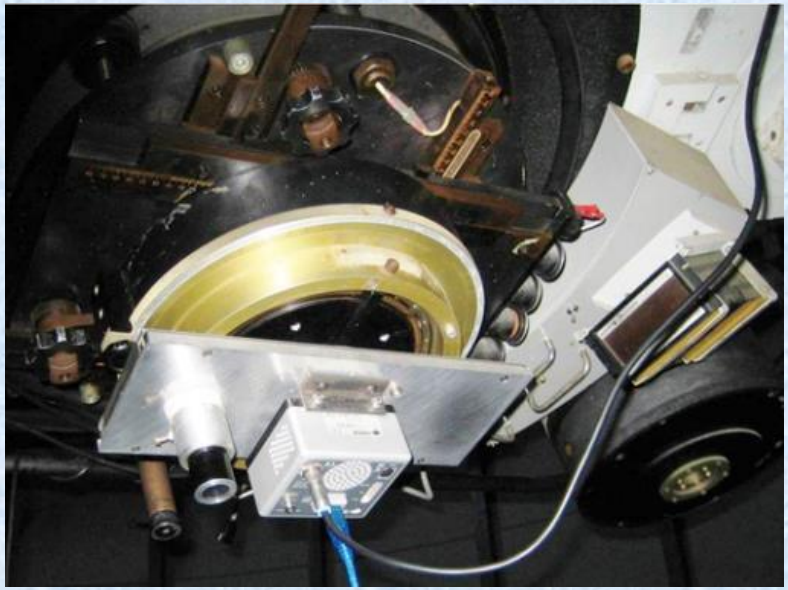
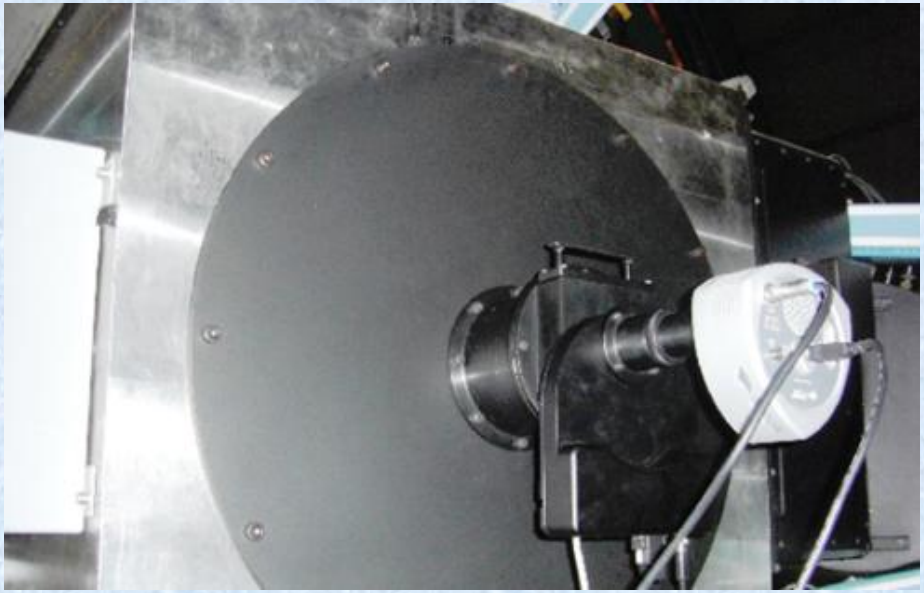
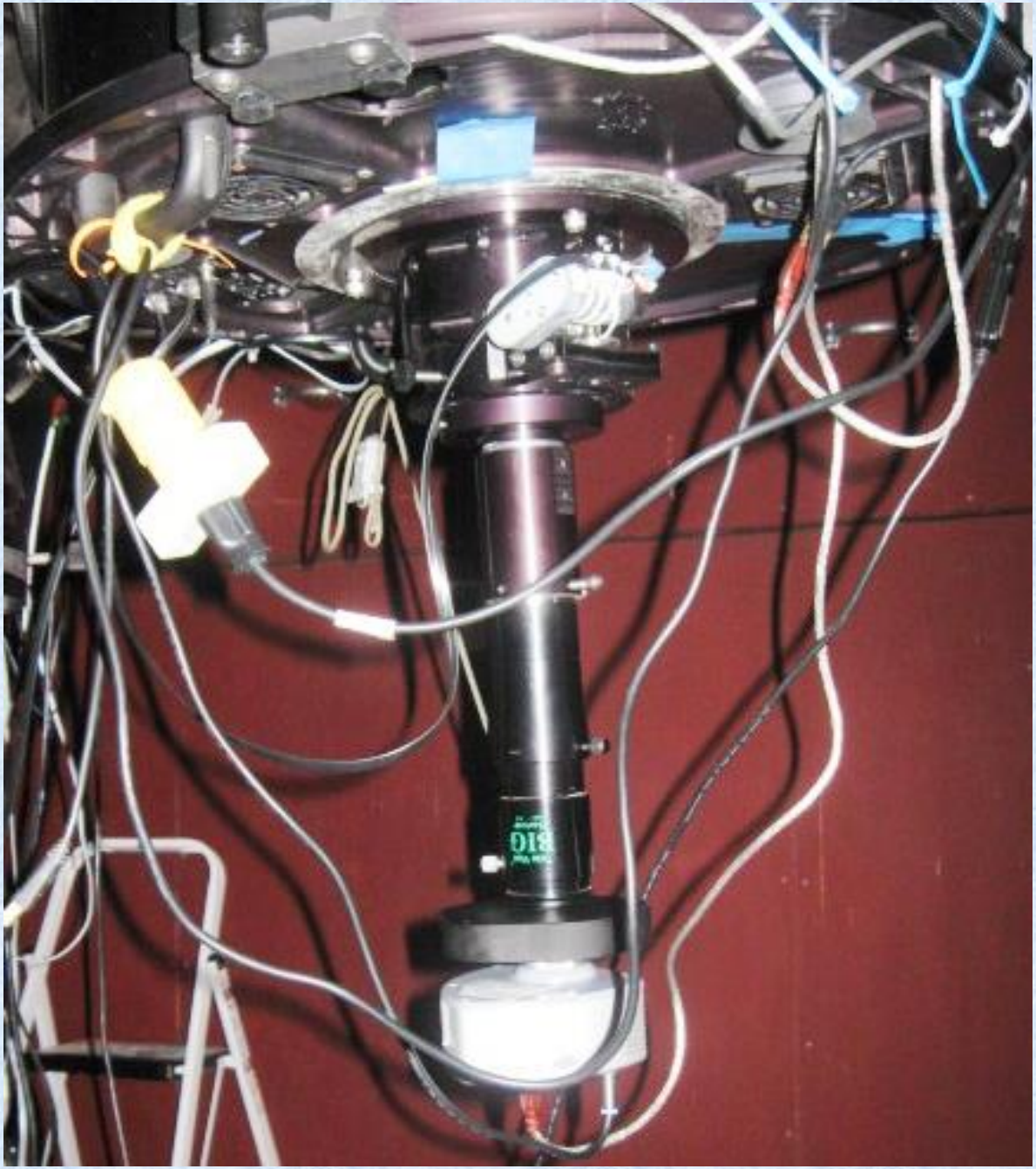
S/N 106

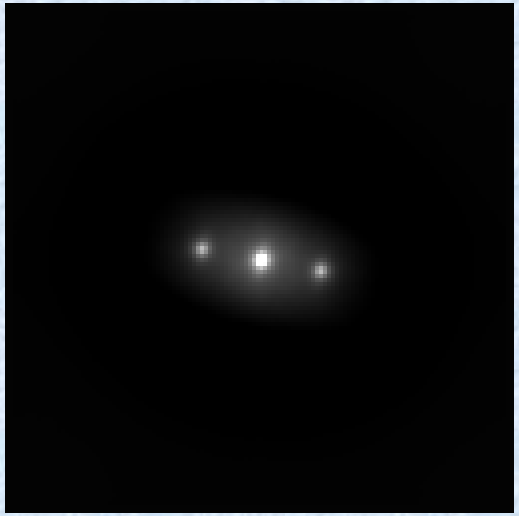


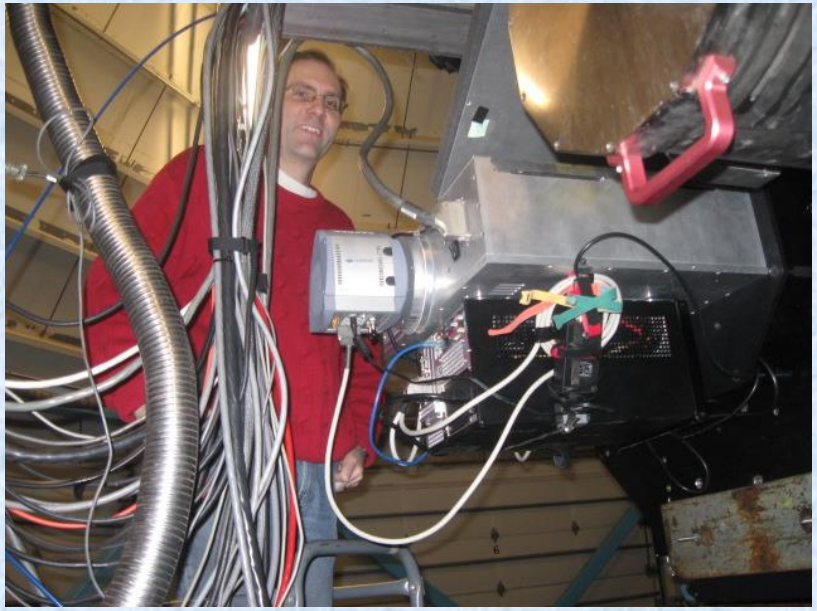

ANDOR™
TECHNOLOGY
Luca™ S
EMCCD Camera







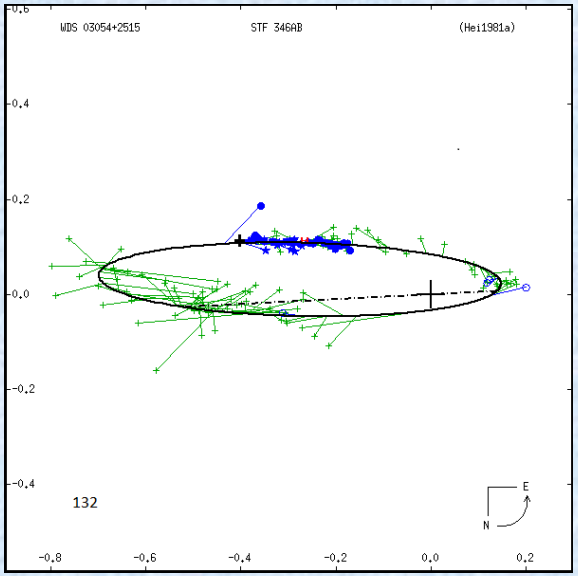


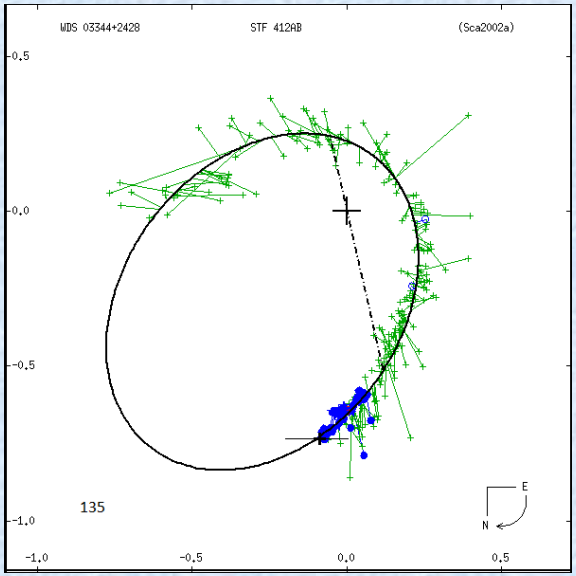


	Precision	Accuracy
θ	1.1	16.0
ρ	3.4	24.8
RSS	3.6	29.5

Values in milli arc seconds

WDS Designation α, β (2000)	Discoverer Designation	Primary Magnitude	Secondary Magnitude	Date Besselian	θ (°)	ρ (″)	O-C (θ)	O-C (ρ)	Orbit Grade	Orbit Reference	Note
00063+5826	STF 3062	6.42	7.32	2012.8876	352.8	1.521	0.6	-0.031	2	Kiyaeva et al. (2001)	
00546+1911	STT 20AB	6.12	7.19	2012.8876	179.5	0.584	0.2	0.016	3	Docobo & Ling (2007)	
00550+2338	STF 73AB	6.12	6.54	2012.8876	326.7	1.067	0.1	-0.024	2	Muterspaught et al. (2010)	
01095+4715	STT 515AB	4.59	5.61	2012.8877	118.2	0.495	0.1	-0.022	4	Muterspaught et al. (2010)	
01097+2348	BU 303	7.32	7.56	2012.8877	292.5	0.603					
01106+5101	BU 235AB	7.54	7.82	2012.8877	139.0	0.827	1.8	-0.028	4	Seymour et al. (2002)	
01283+4247	AC 14	8.29	8.88	2012.8878	91.9	0.765					
01401+3858	STF 141	8.28	8.61	2012.8878	303.4	1.666					
01493+4754	STF 162AB	6.47	7.22	2012.8877	198.8	1.946	0.5	-0.017	L+9	Genet et al. (this work)	b
01532+1526	BU 260	8.75	8.97	2012.8878	259.6	1.120	-0.7	0.027	5	Cvetkovic & Novakovic (2006)	
02062+2507	STF 212	8.35	8.71	2012.8878	161.8	1.904					
02140+4729	STF 228	6.56	7.21	2012.8877	295.6	0.749	0.0	-0.015	2	Soderhjelm (1999)	
02331+5828	STF 272	8.33	8.36	2012.8880	216.9	1.911					
02388+3325	STF 285	7.48	8.14	2012.8880	162.7	1.708					
02422+4242	STT 44AB	8.46	8.96	2012.8880	55.9	1.387					
02529+5300	STF 314AB,C	6.95	7.26	2012.8879	315.7	1.549					
02589+2137	BU 525	7.47	7.45	2012.8879	272.4	0.537	-2.1	0.043	4	Costa (1978)	
02592+2120	STF 333AB	5.17	5.57	2012.8879	209.9	1.381	0.4	0.025	4	Rica et al. (2012)	
03054+2515	STF 346AB	6.21	6,19	2012.8879	254.1	0.421	-3.2	-0.055	3	Heintz (1997)	
03058+4342	BU 1175	7.23	8.80	2012.8879	273.3	0.683					
03177+3838	STT 53	7.73	8.50	2012.8880	237.1	0.617	-1.0	0.016	3	Alzner (1988)	
03233+2058	STF 381	7.56	8.75	2012.8880	107.9	1.056					
03250+4013	HU 1058	8.22	8.83	2012.8880	113.8	0.840					
03285+5954	STF 384AB	8.13	8.85	2012.8880	272.4	1.953					
03302+5922	STF 389AB	6.42	7.89	2012.8879	71.5	2.523					
03312+1947	STF 403	8.71	8.92	2012.8880	172.3	2.290					
03344+2428	STF 412AB	6.60	6.86	2012.8879	353.1	0.742	0.8	0.001	3	Scardia et al. (2002)	
03401+3407	STF 425	7.52	7.60	2012.8879	60.8	1.898	0.7	-0.020	L+9	Genet et al. (this work)	b
03407+4601	STT 59	7.90	8.85	2012.8880	355.6	2.819					
03454+4952	HU 103AB	8.70	8.86	2012.8879	202.2	1.158					
04064+4325	A 1710	8.16	8.27	2012.8879	311.9	0.618	1.5	-0.001	3	Heintz (1982)	
04069+3327	STT 71AB	6.86	8.66	2012.8879	229.2	0.743					
04182+2248	STF 520	8.26	8.46	2012.8880	78.8	0.632	-2.5	0.039	3	Hartkopf & Mason (2001)	
04227+1503	STT 82AB	7.31	8.63	2012.8880	332.6	1.210	-1.2	-0.017	3	Mason et al. (2004)	
04233+1123	STF 535	6.95	8.29	2012.8878	270.5	1.054	0.8	0.002	5	Hartkopf & Mason (2000)	
04422+3731	STF 577	8.38	8.45	2012.8880	337.5	0.723				Mason et al. (2004)	
04478+5318	HU 612	7.06	8.54	2012.8880	0.3	0.699	-0.4	0.030	5	Novakovic (2007)	
05055+1948	STT 95	7.02	7.56	2012.8880	296.4	0.926	-0.6	-0.033	4	Jasinta (1996)	
05103+3718	STF 644AB	6.96	6.78	2012.8880	222.6	1.647					
05167+1826	STF 670AB	7.72	8.28	2012.8880	165.1	2.520					
05188+5250	STF 657	8.30	8.81	2012.8880	310.5	0.952					
05240+2458	STF 694AB	8.65	8.54	2012.8880	14.2	1.379					


WDS 03054+2515
STF 346AB
(Hei1981a)
132
E
N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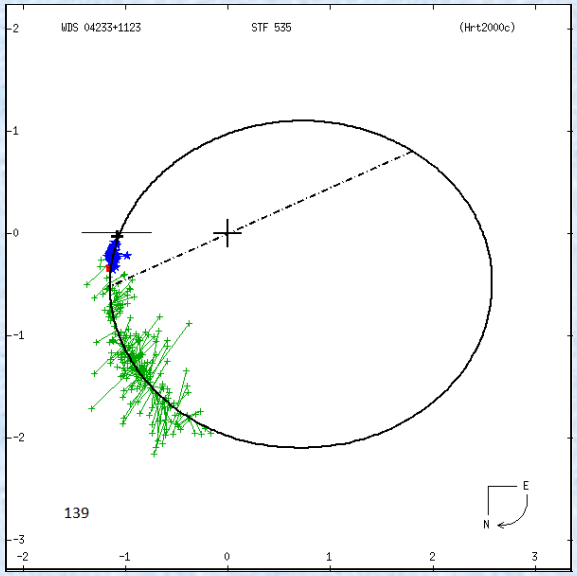
STF 412AB
(Sca2002a)
135
E
N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(Hrt2000c)
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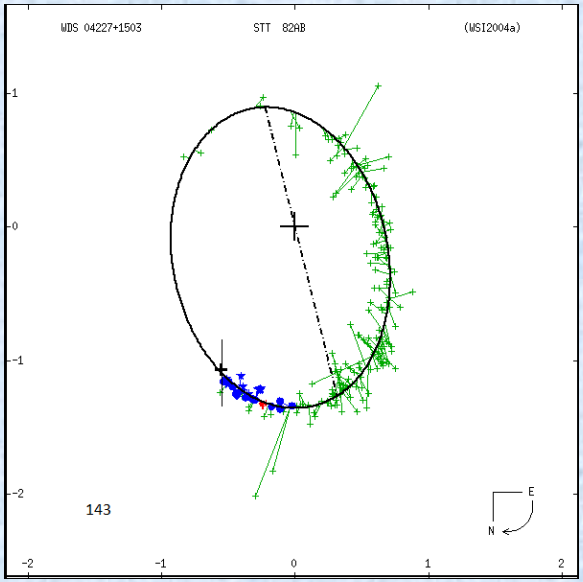
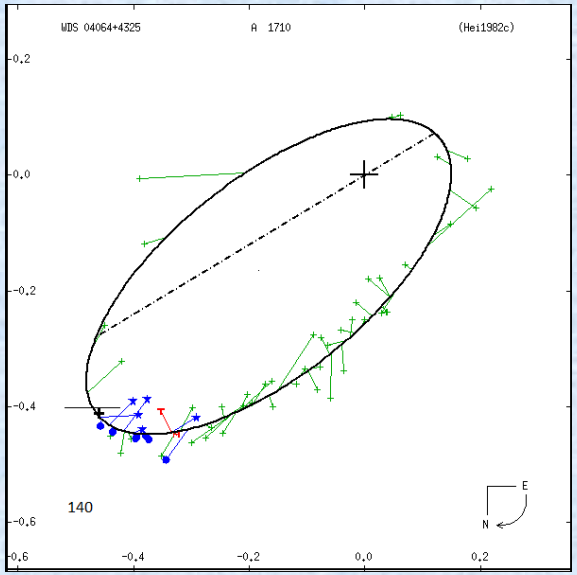

WDS 04227+1503
STT 82AB
(WSI2004a)
143
E
N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A 1710
(Hei1982c)
140
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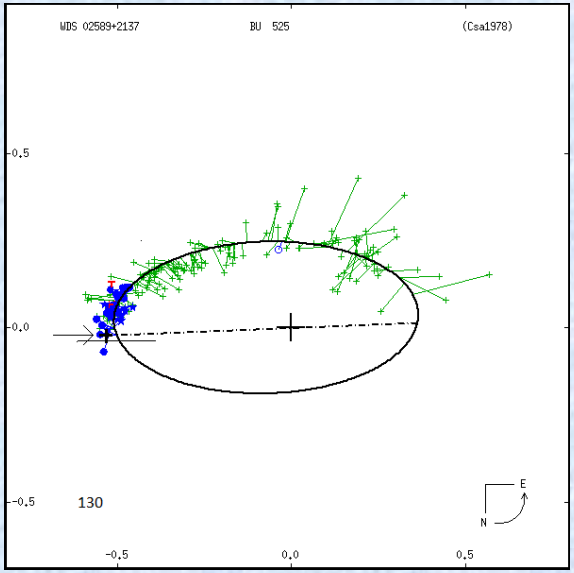
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BU 525
(Csa1978)
130
E
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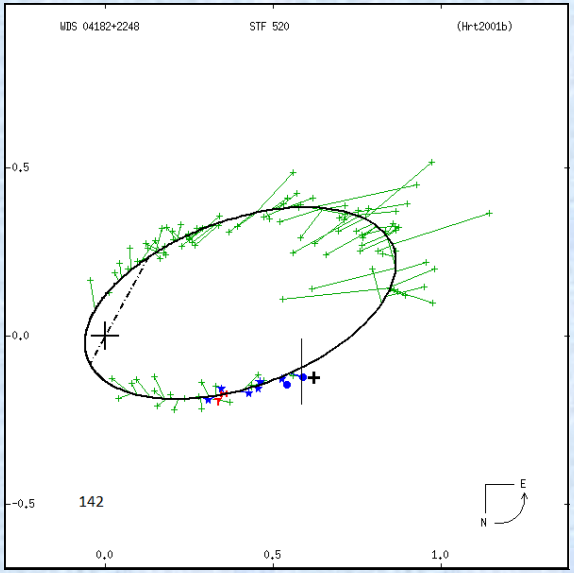
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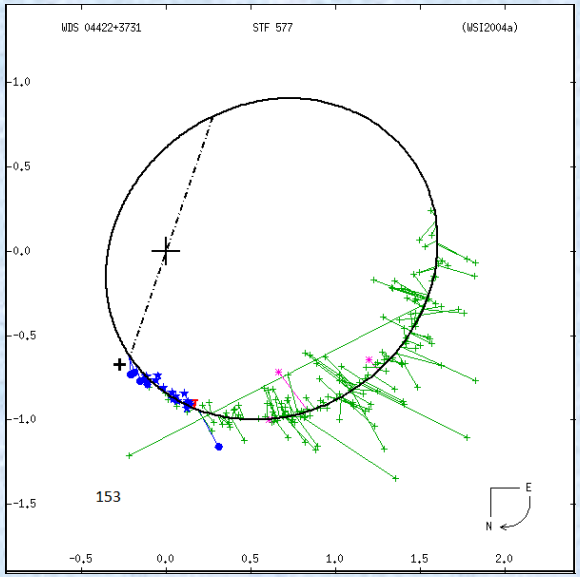
(Hrt2001b)
142
E
N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(WSI2004a)
153
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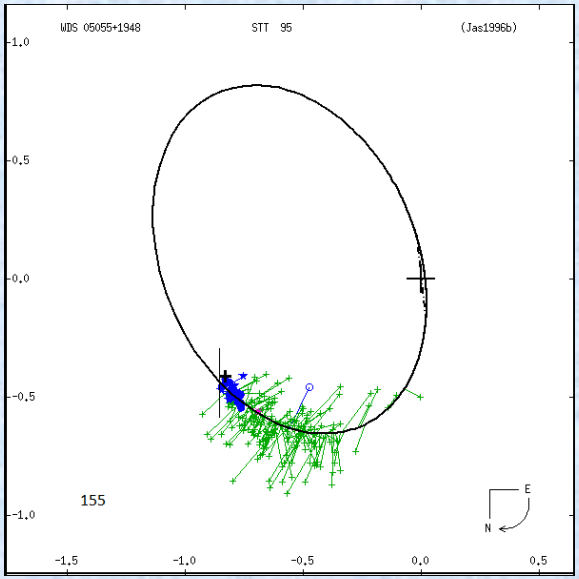
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155
E
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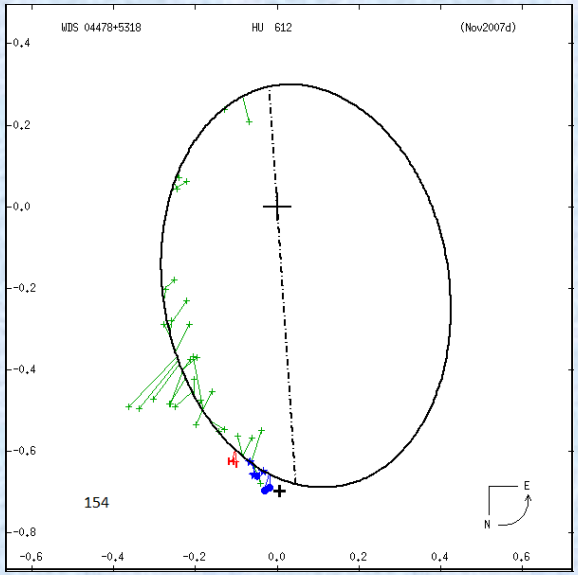
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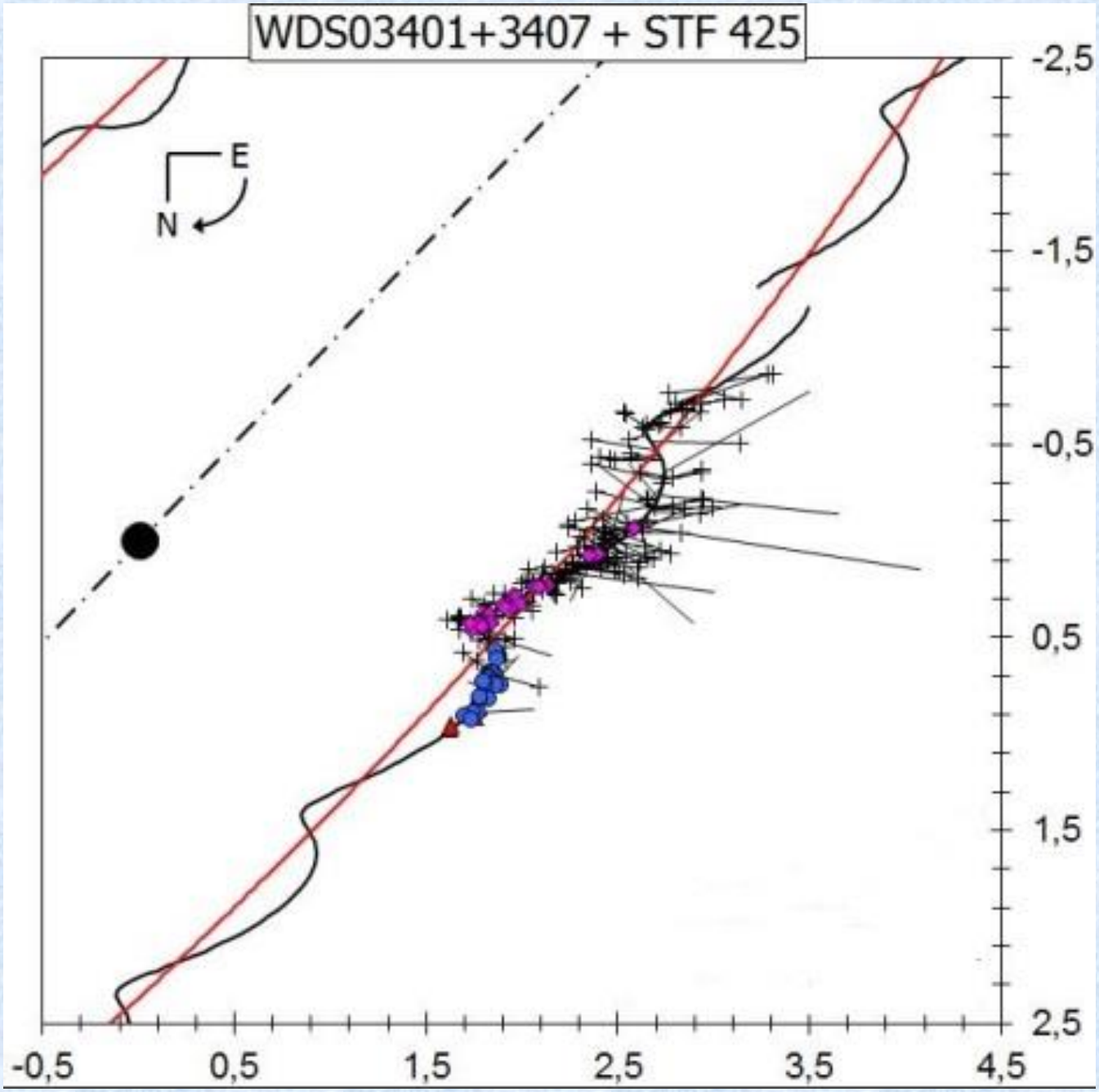
HU 612
(Nov2007d)
154
E
N


WDS03401+3407 + STF 425
E
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-2,5
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3,5
4,5

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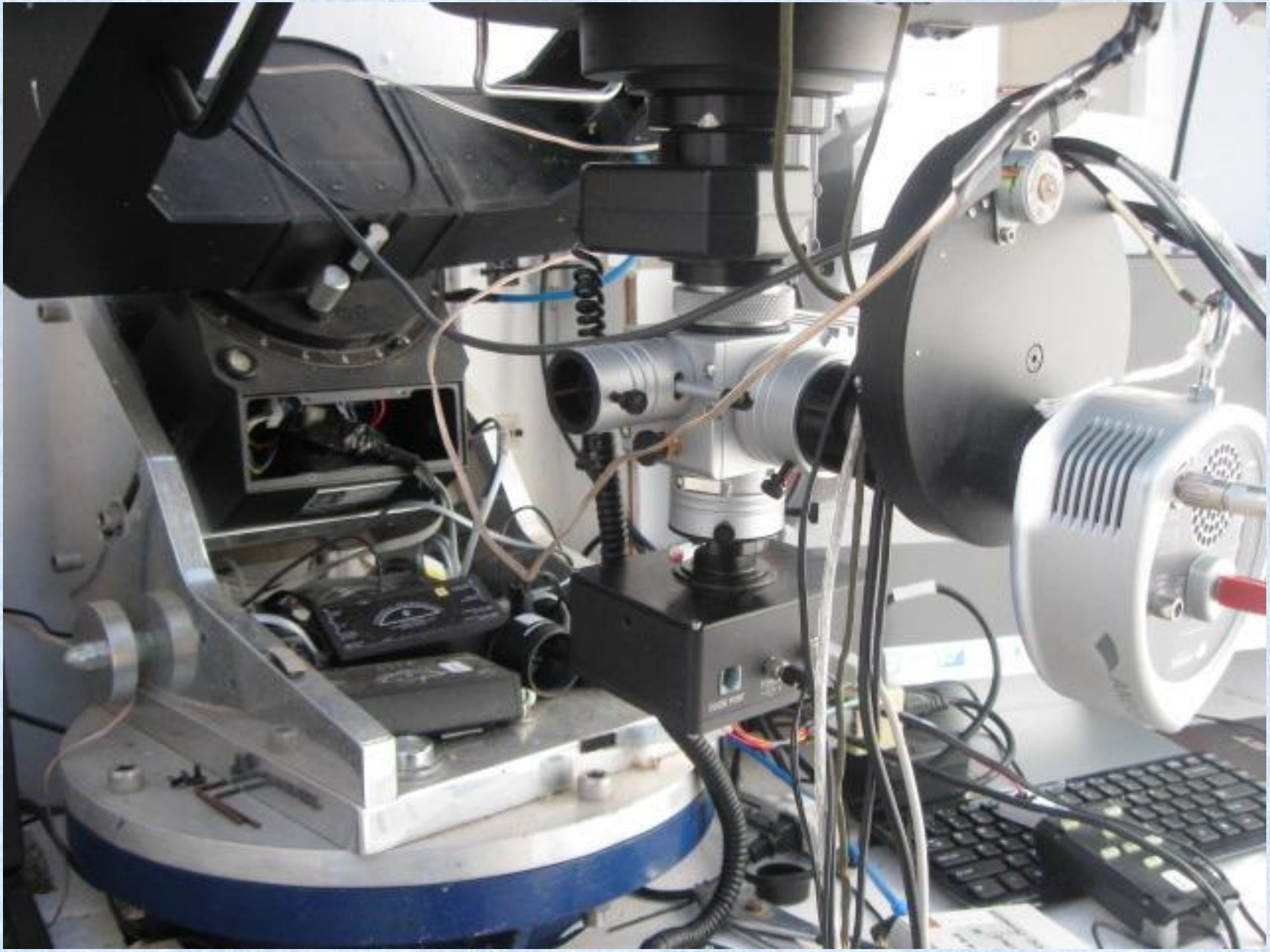
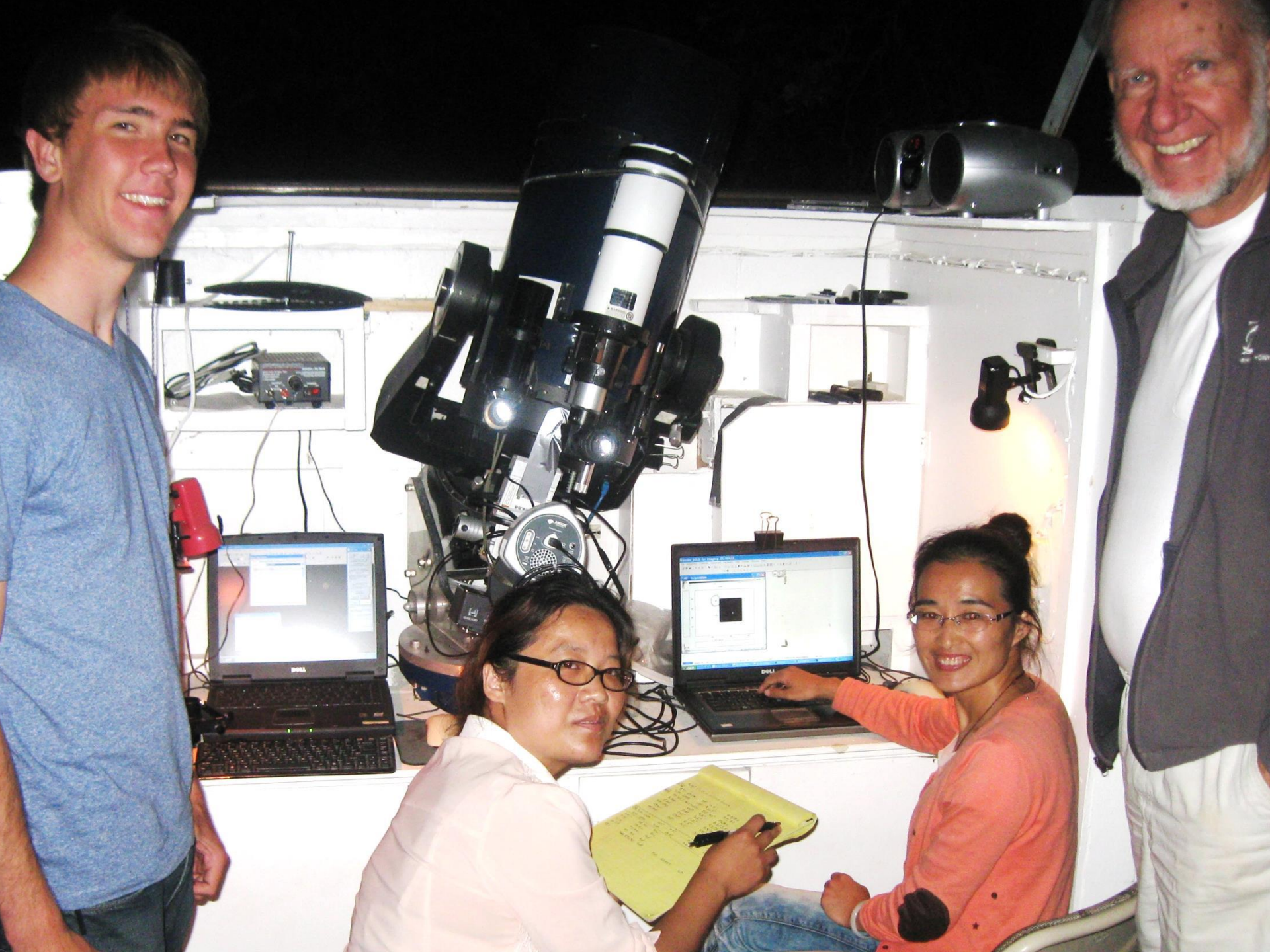
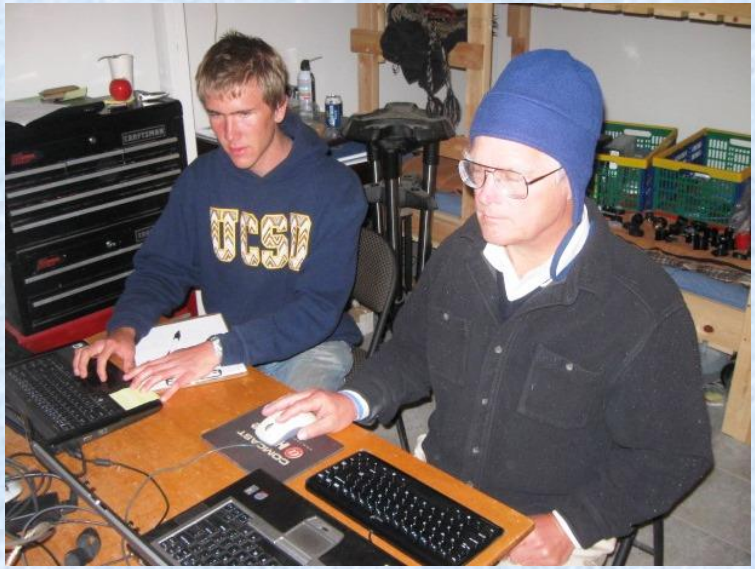
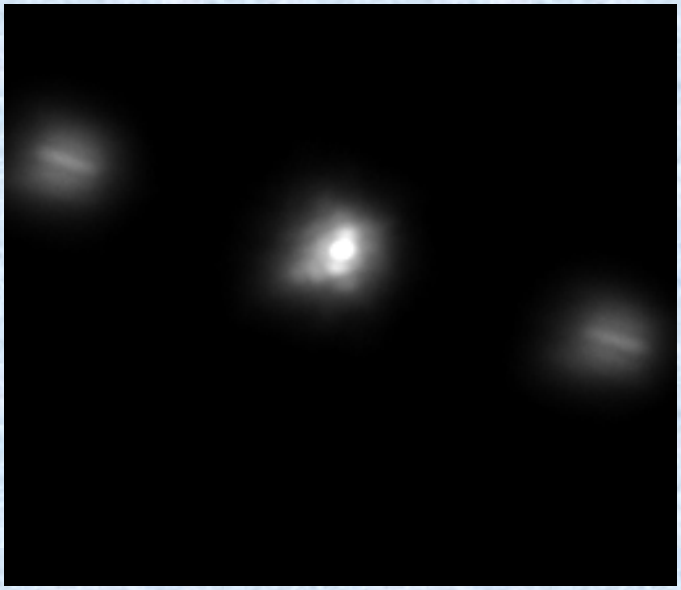
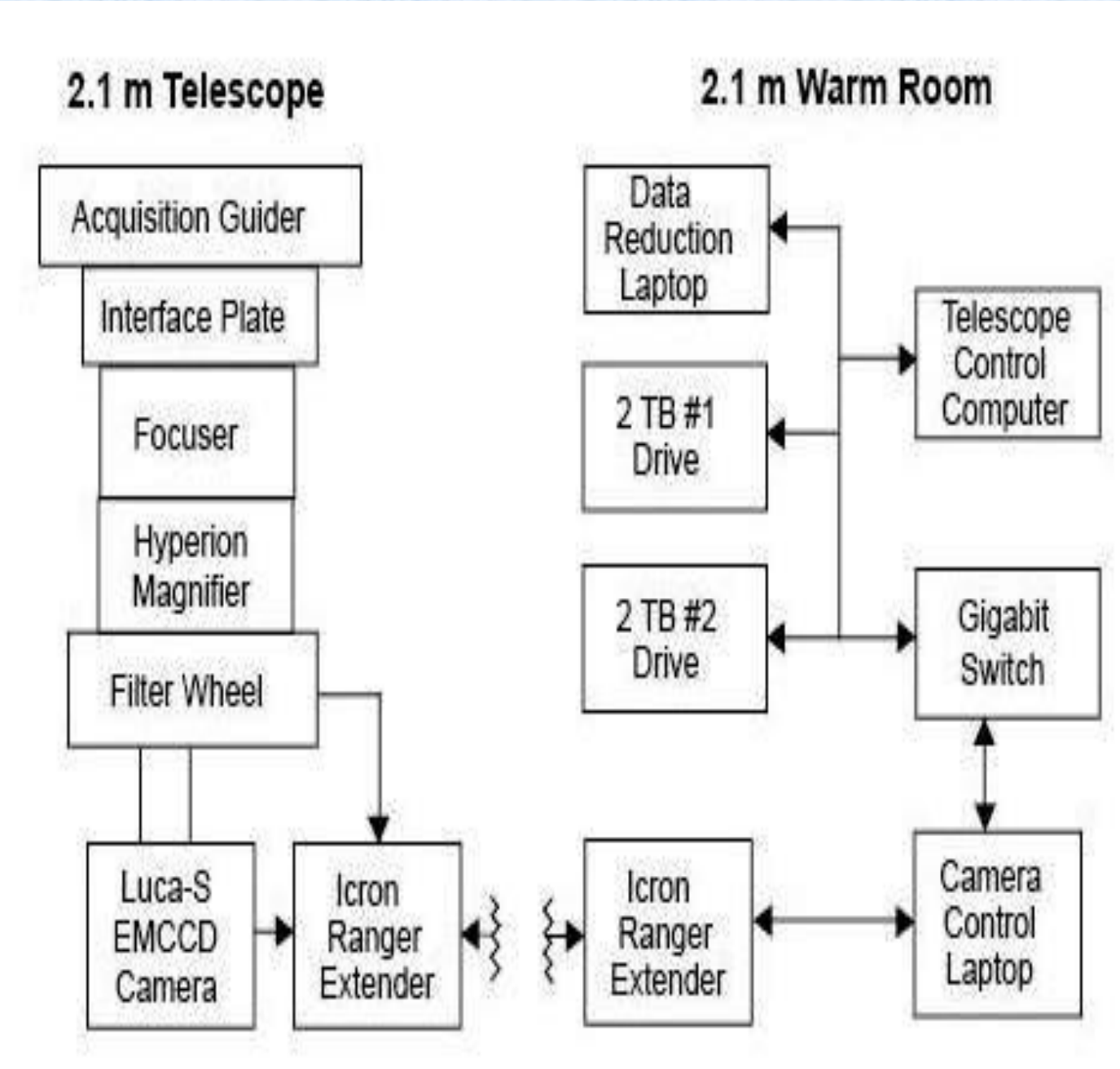


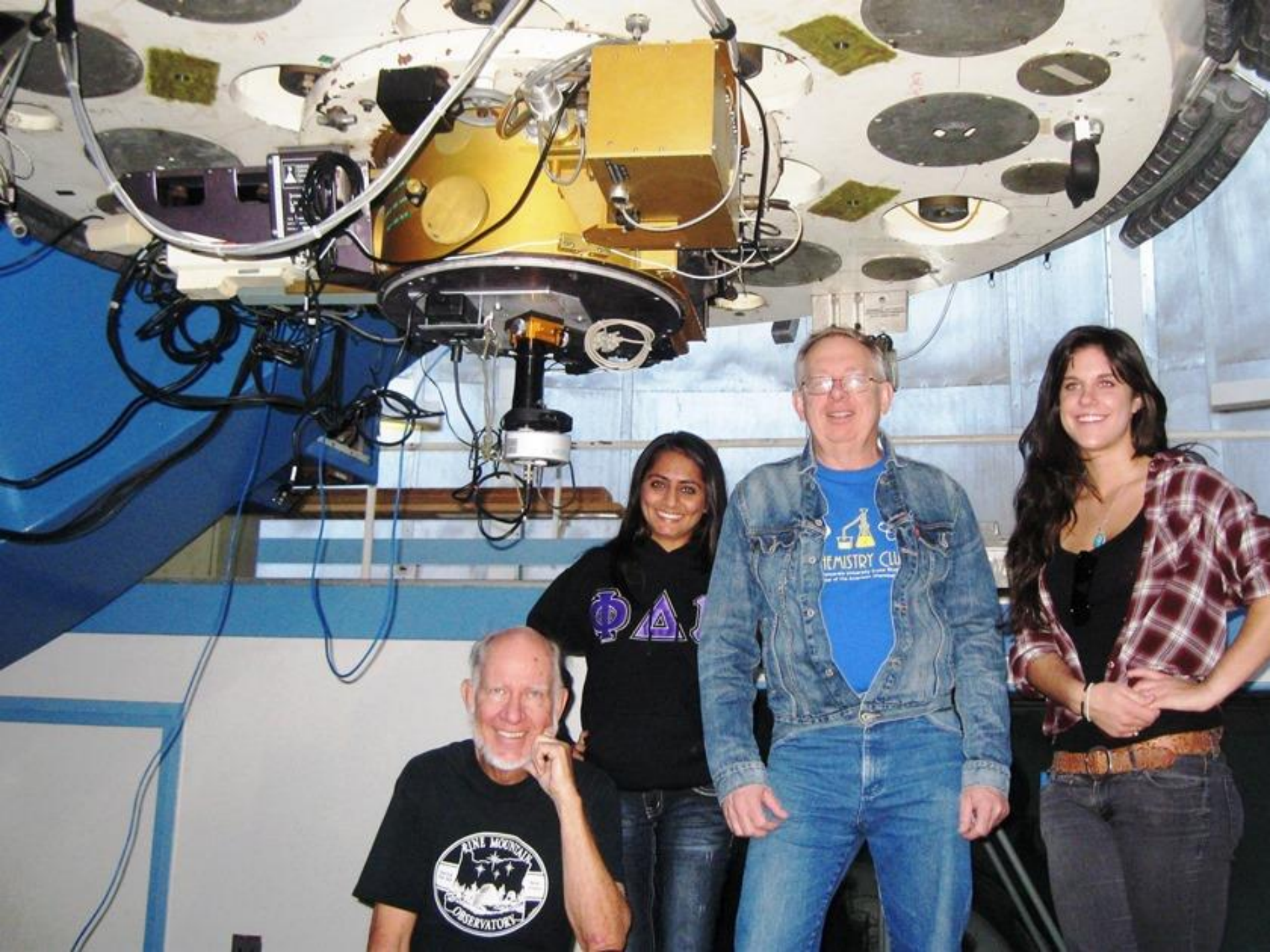


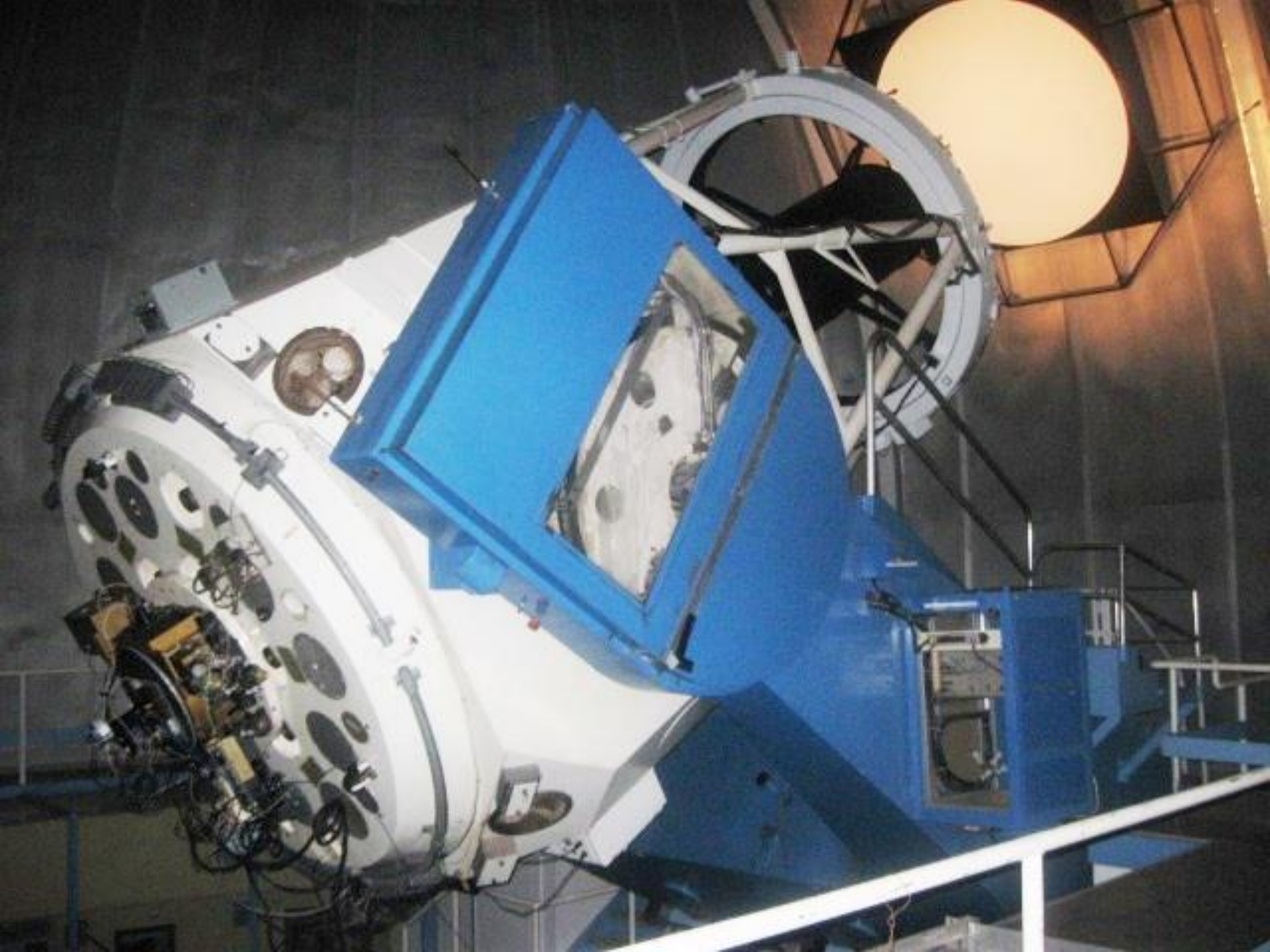

UCSD

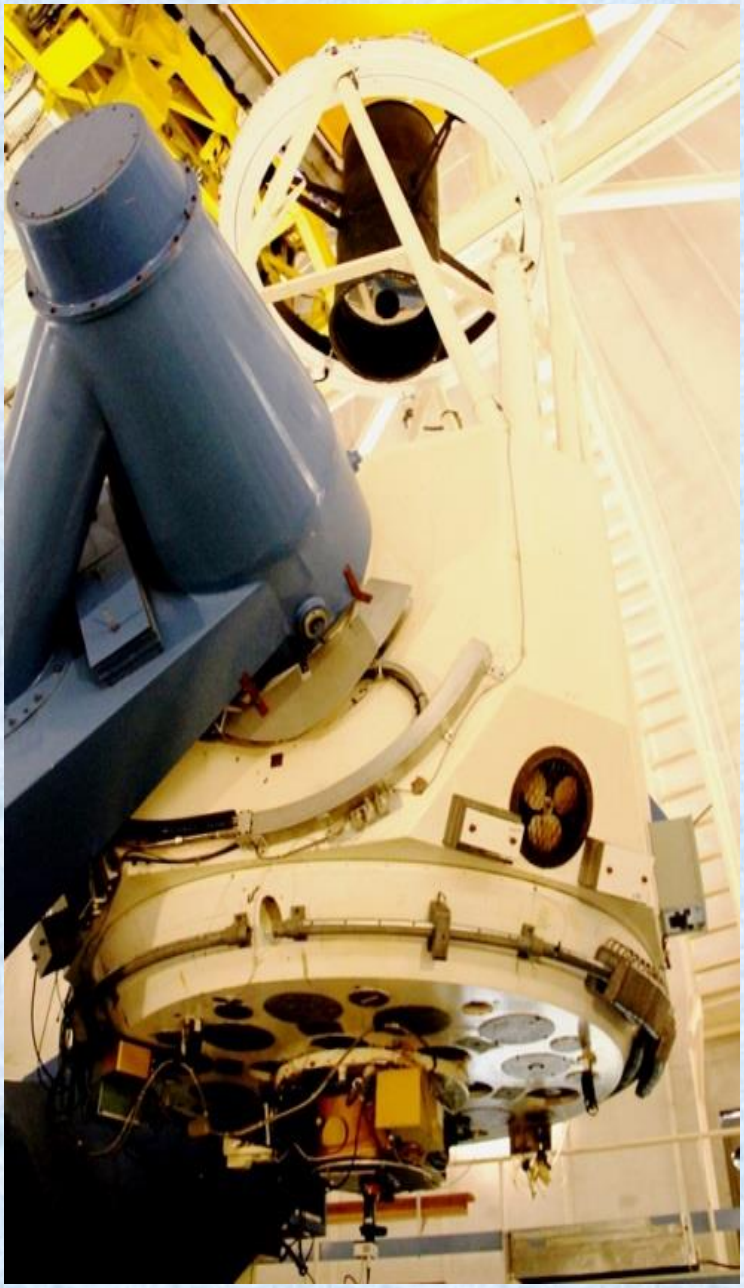


YOSEMITE

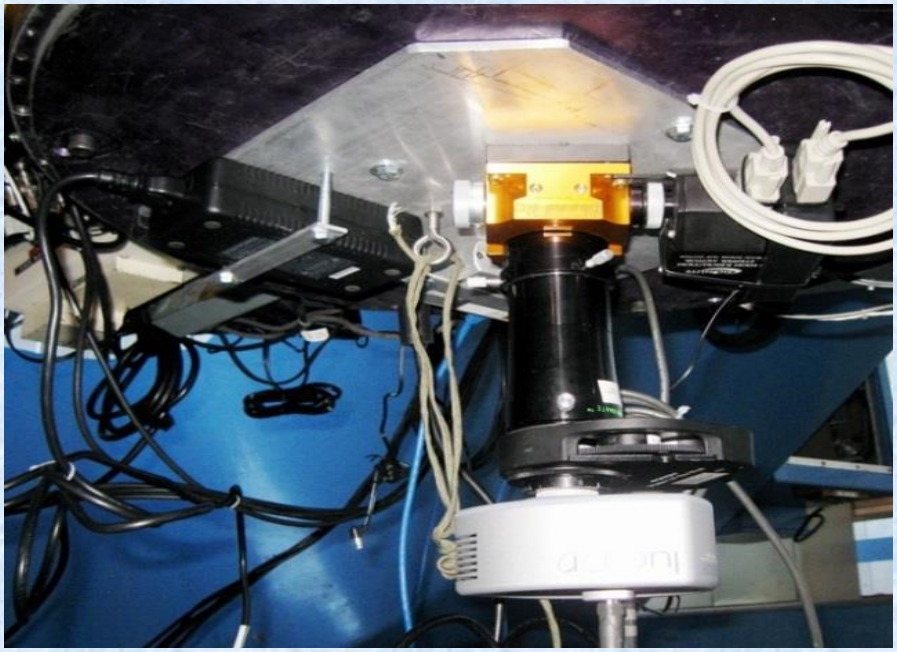

2.1 m Telescope
2.1 m Warm Room
Acquisition Guider
Interface Plate
Focuser
Hyperion Magnifier
Filter Wheel
Luca-S EMCCD Camera
Icron Ranger Extender
Icron Ranger Extender
Data Reduction Laptop
2 TB #1 Drive
2 TB #2 Drive
Telescope Control Computer
Gigabit Switch
Camera Control Laptop

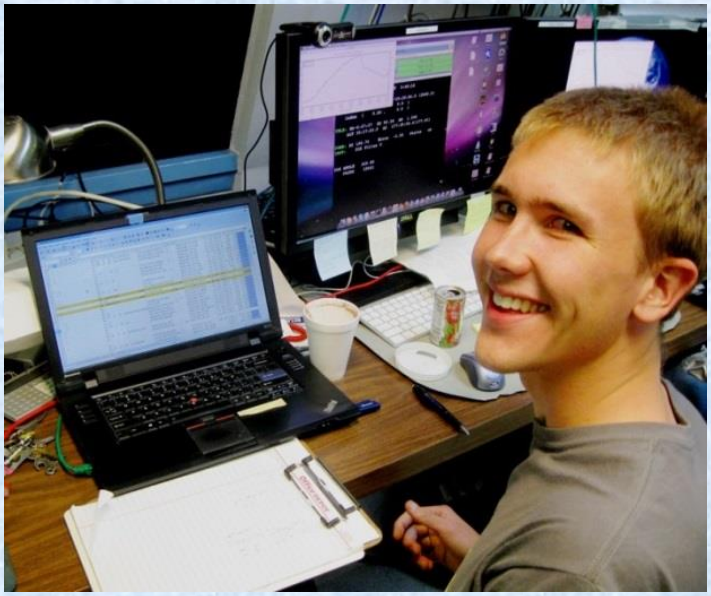

PINE MOUNTAIN
OBSERVATORY

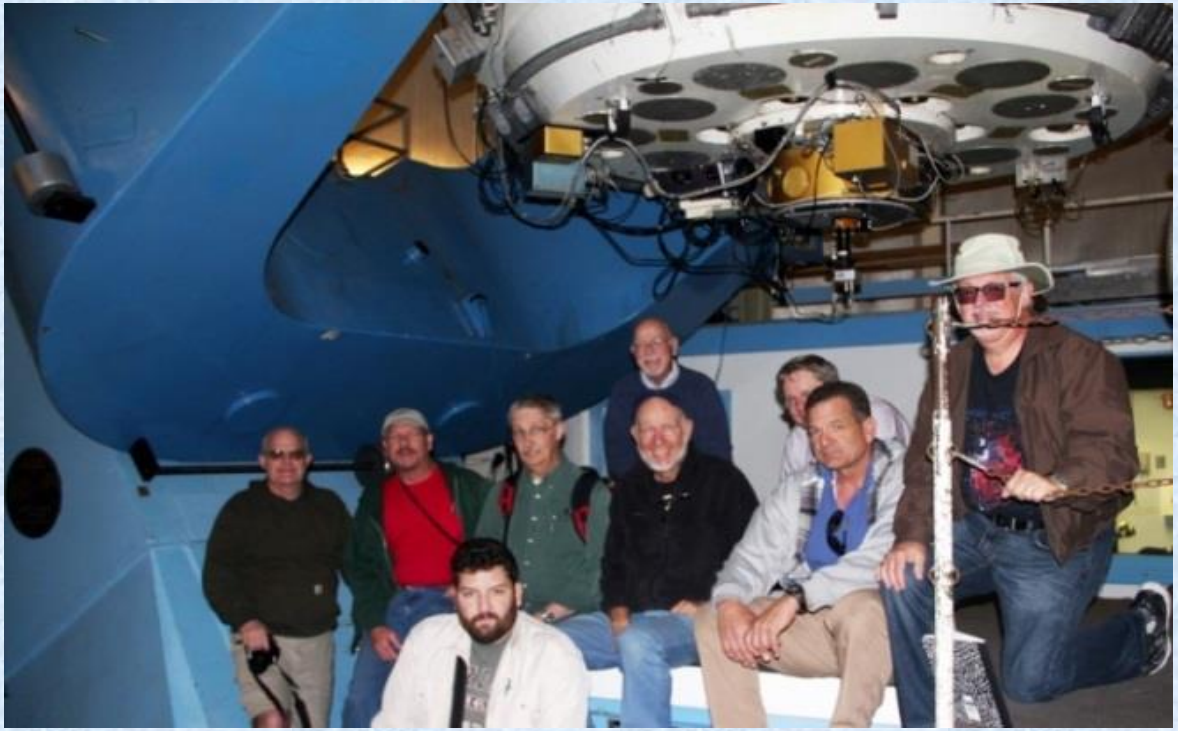




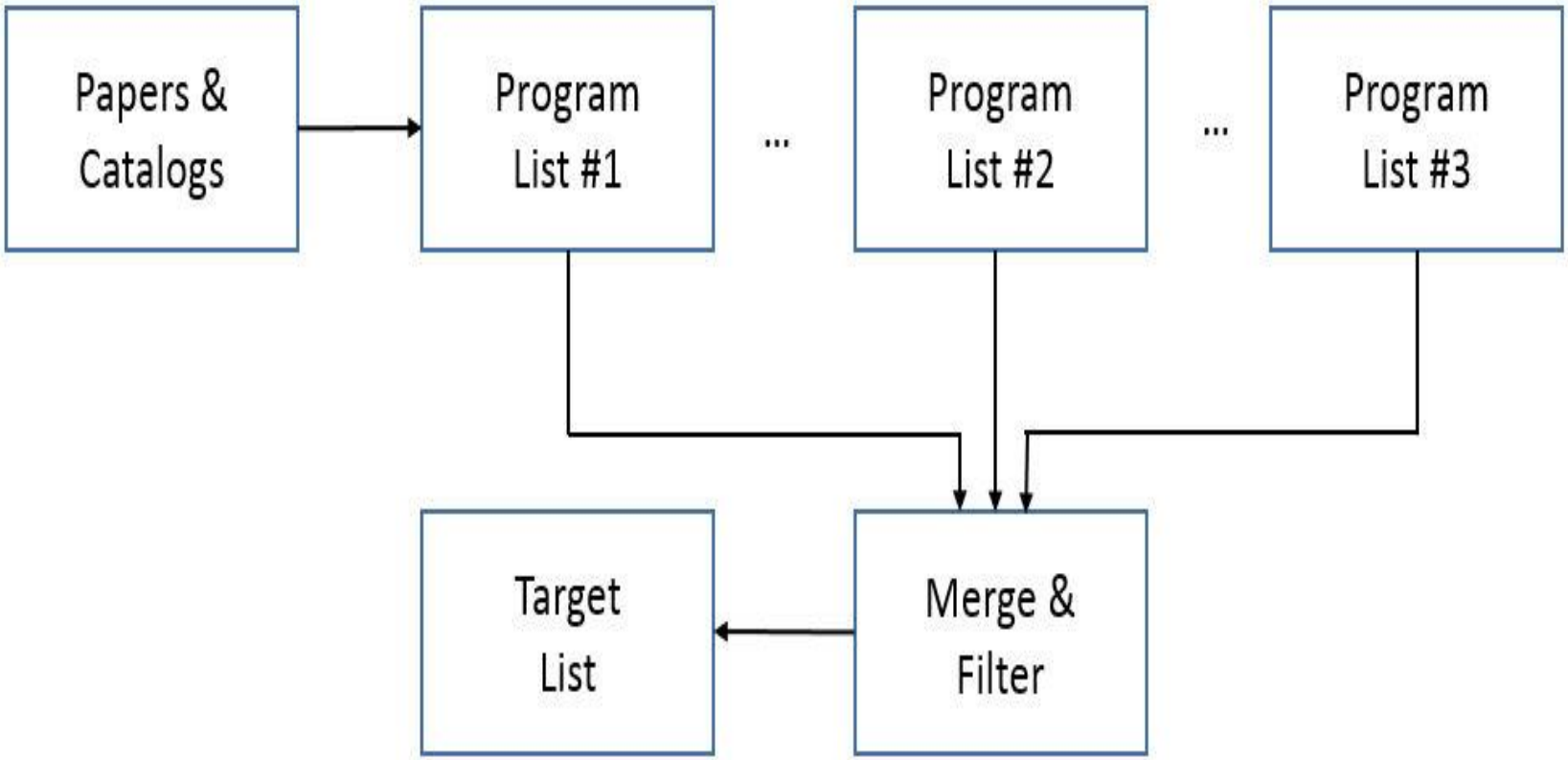
SCREAMING
EAGLES

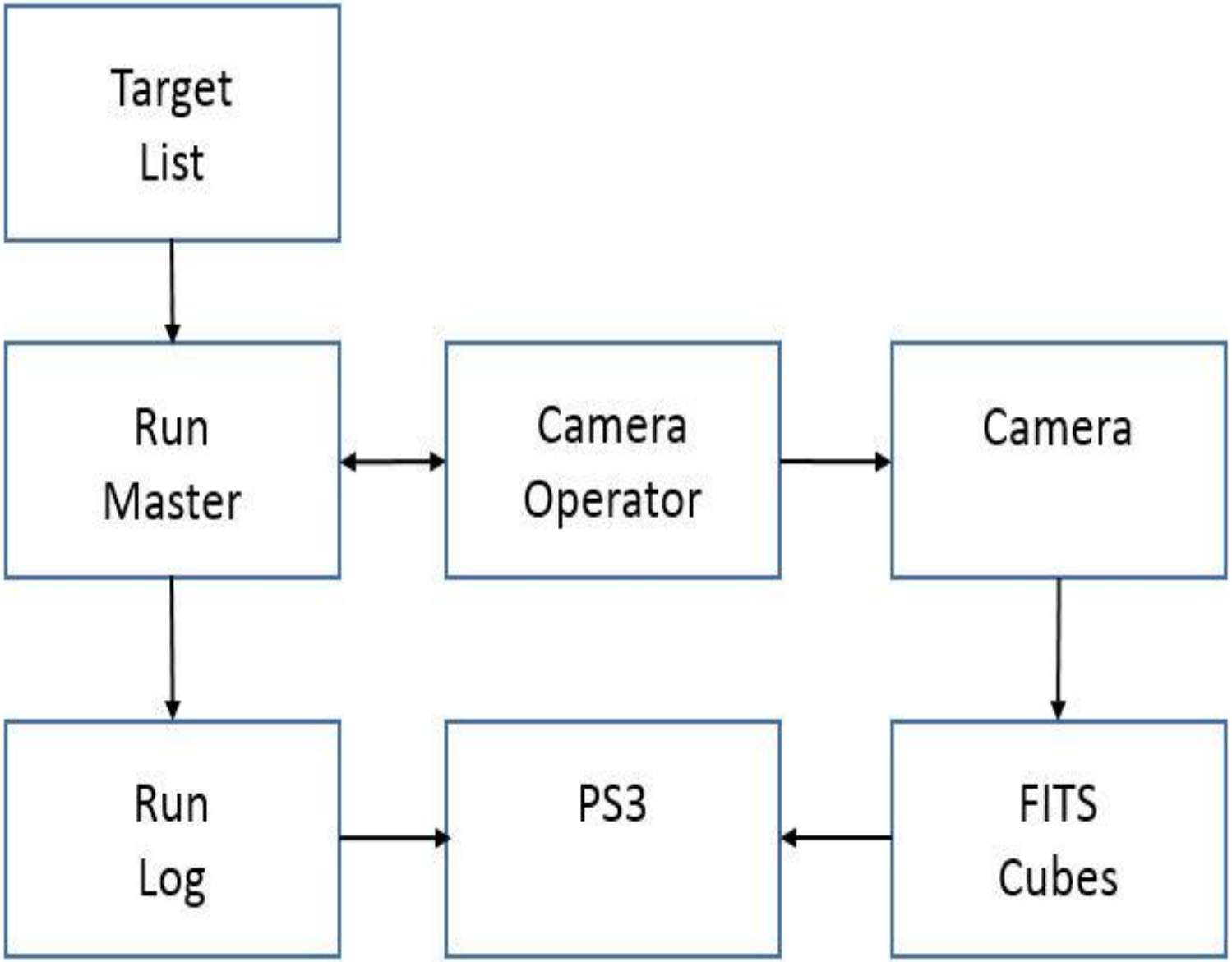






Speckle Interferometry Process

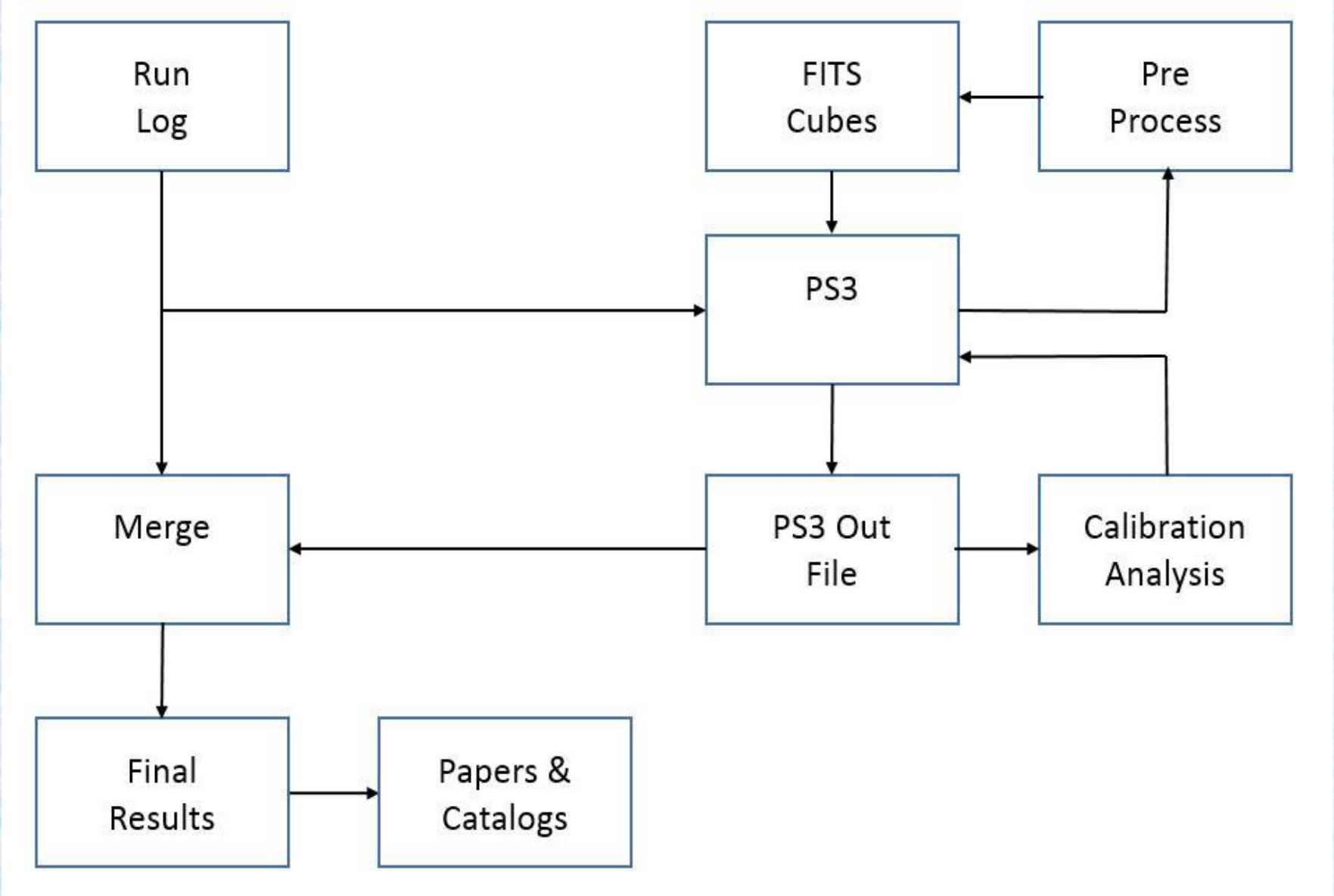



Target List
Run Master
Camera Operator
Camera
Run Log
PS3
FITS Cubes

T	DSFN	SSFN	TheC	RhoC	Delta	E	F	Com	Date	Time	HIP#	RPg	RqC	TCC	G	Per	WN	BN	T	F	S	S	M	T	W	WDS
D	KP485.fits	KP486.fits	189	0.156	0.0000	0.01166	Si		4/15/2014	10:58 PM	58287	HUD	Est											x		12026+4117
D	KP249.fits	KP250.fits	32	0.3				248 May also be this star	4/13/2014	10:29 PM	58135	MPD	Hsw	MPD								x				12037+2506
D	KP505.fits	KP506.fits	32	0.3					4/16/2014	12:31 AM	58135	MPD	Hsw	MPD										x		12037+2506
D	KP246.fits	KP247.fits	251	0.1					4/13/2014	10:23 PM	58724	MPD	Hsw	MPD							x					12042+2407
D	KP507.fits	KP508.fits	251	0.1					4/16/2014	12:44 AM	58724	MPD	Hsw	MPD										x		12042+2407
D	KP266.fits	KP267.fits	42	22.4					4/13/2014	11:42 PM	58483	MPD	Kiy	MPD								x				12061+7022
D	KP486.fits	KP487.fits	307	1.2					4/15/2014	11:09 PM	58483	MPD	Kiy/Wly	MPD										x		12061+7022
D	KP255.fits	KP256.fits	345	0.3					4/13/2014	10:59 PM	58217	MPD	Hsw	MPD								x				12080+4242
D	KP499.fits	KP500.fits	345	0.3					4/16/2014	12:07 AM	58217	MPD	Hsw	MPD										x		12080+4242
D	KP253.fits	KP254.fits	62	0.3					4/13/2014	10:49 PM	58193	MPD	Wly	MPD								x				12154+4008
D	KP501.fits	KP502.fits	62	0.3					4/16/2014	12:15 AM	58193	MPD	Wly	MPD										x		12154+4008
D	KP234.fits	KP235.fits	232	0.4					4/13/2014	9:41 PM	58574	MPD	Wly	MPD								x				12202-2211
D	KP257.fits	KP258.fits	351	0.3					4/13/2014	11:02 PM	58552	MPD	Hsw	MPD								x				12244+4305
D	KP378.fits	KP379.fits	351	0.3					4/14/2014	11:39 PM	58552	MPD	Hsw	MPD									x			12244+4305
D	KP497.fits	KP498.fits	351	0.3					4/15/2014	11:58 PM	58552	MPD	Hsw	MPD										x		12244+4305
D	KP232.fits	KP233.fits	292	0.5		0.01166			4/13/2014	9:32 PM	58424	MPD	Wly	MPD								x				12260-1457
D	KP521.fits	KP522.fits	292	0.5		0.01166			4/16/2014	1:38 AM	58424	MPD	Wly	MPD										x		12260-1457
D	KP236.fits	KP237.fits	99	0.5					4/13/2014	9:48 PM	58603	MPD	Wly	MPD								x				12270-0332
D	KP519.fits	KP520.fits	99	0.5					4/16/2014	1:26 AM	58603	MPD	Wly	MPD										x		12270-0332
D	KP240.fits	KP241.fits	118	0.4					4/13/2014	10:06 PM	58948	MPD	Wly	MPD								x				12335+0901
D	KP479.fits	KP480.fits	61.8	0.095	0.0000	0.01166	Si	Parse Error on TCS	4/15/2014	10:22 PM	58445	KSP	Gen		3	15.9								x		12335+0901
D	KP517.fits	KP518.fits	118	0.4					4/16/2014	1:18 AM	58948	MPD	Wly	MPD										x		12335+0901
D	KP244.fits	KP245.fits	351.7	0.146	0.0000	0.01166	Si		4/13/2014	10:17 PM	59421	KSP	Gen		3	33.0					x					12349+2238
D	KP251.fits	KP252.fits	168.7	0.209	0.0000	0.01166	Si		4/13/2014	10:43 PM	58213	KSP	Gen		3	33.3						x				12409+2708
D	KP242.fits	KP243.fits	232	0.4					4/13/2014	10:11 PM	58519	MPD	Wly	MPD							x					12507+2032
D	KP509.fits	KP510.fits	232	0.4					4/16/2014	12:49 AM	58519	MPD	Wly	MPD										x		12507+2032
D	KP238.fits	KP239.fits	185.7	0.063	0.0000	0.01166	Si	Parse Error on TCS	4/13/2014	9:57 PM	58368	KSP	Gen		2	8.0						x				12597-0349
D	KP646.fits	KP648.fits	185.7	0.063	0.0000	0.01166	Si		4/17/2014	12:14 AM	58368	KSP	Gen		2	8.0									x	12597-0349

WDS	Dis	Comp	First	Last	Nob	PAF	PAL	SF	SL	VMagP	VMagS	Spec	PPMRA	PPMDec	SPMRA	SPMDec	DM	N	2	3	4	Coord
12026+4117	HDS	1692	1991	1991	1		189		0.156	8.98	10.24	F5	-5	-5			42 2265					120235.20+411650.4
12037+2506	A 681		1904	2004	32	134	32	0.4	0.3	9.89	10.73	G5	-052	-019			+25 2453					120344.30+250621.6
12037+2506	A 681		1904	2004	32	134	32	0.4	0.3	9.89	10.73	G5	-052	-019			+25 2453					120344.30+250621.6
12042+2407	A 682		1904	1991	30	336	251	0.4	0.1	8.82	10.76	F2V	-032	-006			+24 2422	N				120412.06+240710.1
12042+2407	A 682		1904	1991	30	336	251	0.4	0.1	8.82	10.76	F2V	-032	-006			+24 2422	N				120412.06+240710.1
12061+7022	A 76	AB C	1898	2008	15	43	42	22.0	22.4	11.27	10.54	K0	-120	+036	-121	+039		N				120607.09+702230.3
12061+7022	A 76	BC	1900	1997	14	345	307	1.4	1.2	10.88	11.9	K0	-113	+035			+71 603	N				120610.10+702246.7
12080+4242	A 1998		1909	1997	27	24	345	0.4	0.3	10.15	10.64	F8	+017	+002			+43 2191					120759.29+424157.5
12080+4242	A 1998		1909	1997	27	24	345	0.4	0.3	10.15	10.64	F8	+017	+002			+43 2191					120759.29+424157.5
12154+4008	A 1999		1909	2009	23	312	62	0.8	0.3	9.09	11.33	G9IV	-177	+038			+40 2514	O				121526.22+400741.1
12154+4008	A 1999		1909	2009	23	312	62	0.8	0.3	9.09	11.33	G9IV	-177	+038			+40 2514	O				121526.22+400741.1
12202-2211	BU 605		1870	1996	40	138	232	1.0	0.4	6.29	8.05	G3IV	-102	-022			-21 3511					122010.83-221032.3
12244+4305	STT 250		1843	2009	57	336	351	0.4	0.3	8.27	9.18	F0	+005	+001	+005	+001	+43 2220					122424.51+430515.0
12244+4305	STT 250		1843	2009	57	336	351	0.4	0.3	8.27	9.18	F0	+005	+001	+005	+001	+43 2220					122424.51+430515.0
12244+4305	STT 250		1843	2009	57	336	351	0.4	0.3	8.27	9.18	F0	+005	+001	+005	+001	+43 2220					122424.51+430515.0
12260-1457	BU 606		1878	2006	22	98	292	1.4	0.5	7.42	9.39	F7V	-118	-022			-14 3510	O				122559.69-145651.8
12260-1457	BU 606		1878	2006	22	98	292	1.4	0.5	7.42	9.39	F7V	-118	-022			-14 3510	O				122559.69-145651.8
12270-0332	A 79	AB	1900	2013	18	90	99	0.4	0.5	8.89	10.03	G5	+132	-095			-02 3519	N	O			122700.77-033205.6
12270-0332	A 79	AB	1900	2013	18	90	99	0.4	0.5	8.89	10.03	G5	+132	-095			-02 3519	N	O			122700.77-033205.6
12335+0901	REU 1		1938	2010	61	322	118	0.7	0.4	12.6	12.6		-178	+022				N	P	O		123318.43+090113.9
12335+0901	REU	1	1938	2010	61	322	118	0.7	0.4	12.60	12.60		-1780	220								123318.43+009113.9
12335+0901	REU 1		1938	2010	61	322	118	0.7	0.4	12.6	12.6		-178	+022				N	P	O		123318.43+090113.9
12349+2238	WRH	12	1937	2008	104	90	16	0.2	0.3	4.96	6.90	A0IV	-65	21								123451.12+223745.1
12409+2708	COU	596	1971	2008	27	209	211	0.2	0.2	8.50	8.70	F5V	-47	-14								124055.44+270820.9
12507+2032	HU 640		1903	2010	82	284	232	0.4	0.4	10.19	9.91	K5	-125	-033	-125	-033	+21 2462	N	O			125041.87+203204.9
12507+2032	HU 640		1903	2010	82	284	232	0.4	0.4	10.19	9.91	K5	-125	-033	-125	-033	+21 2462	N	O			125041.87+203204.9
12597-0349	CHR	39Ab, Ab	1983	2009	20	187	57	0.1	0.1	5.80	.	A3V	-37	8								125939.55-034843.0
12597-0349	CHR	39Ab, Ab	1983	2009	20	187	57	0.1	0.1	5.80	.	A3V	-37	8								125939.55-034843.0
13029+1328	STF1711		1829	2008	100	356	335	1.4	0.3	9.27	9.36	F5	-048	+015	-048	+015	+14 2572	O				130251.05+132824.2

RAseg	DECseg	RAdec	DECdec	T	HIP	VMagP	Spec	Coords	RASeg	DECSeg	Seq#
12 02 35.20	+41 16 50.4	12.043111	41.280667	S	58287	6.6	F6V	115714.70+402038.0	11 57 14.70	+40 20 38.0	85
12 03 44.30	+25 06 21.6	12.062306	25.106	S	58135	6.97	K1III	115524.55+253120.1	11 55 24.55	+25 31 20.1	92
12 03 44.30	+25 06 21.6	12.062306	25.106	S	58135	6.97	K1III	115524.55+253120.1	11 55 24.55	+25 31 20.1	92
12 04 12.06	+24 07 10.1	12.070017	24.119472	S	58724	7.74	K2III	120242.17+242648.4	12 02 42.17	+24 26 48.4	90
12 04 12.06	+24 07 10.1	12.070017	24.119472	S	58724	7.74	K2III	120242.17+242648.4	12 02 42.17	+24 26 48.4	90
12 06 07.09	+70 22 30.3	12.101969	70.375083	S	58483	8.33	F5	115935.52+713441.7	11 59 35.52	+71 34 41.7	20
12 06 10.10	+70 22 46.7	12.102806	70.379639	S	58483	8.33	F5	115935.52+713441.7	11 59 35.52	+71 34 41.7	22
12 07 59.29	+42 41 57.5	12.133136	42.699306	S	58217	7.04	G9II-III	115622.86+420049.7	11 56 22.86	+42 00 49.7	98
12 07 59.29	+42 41 57.5	12.133136	42.699306	S	58217	7.04	G9II-III	115622.86+420049.7	11 56 22.86	+42 00 49.7	98
12 15 26.22	+40 07 41.1	12.257283	40.128083	S	58193	6.9	K1III	115603.56+403851.7	11 56 03.56	+40 38 51.7	96
12 15 26.22	+40 07 41.1	12.257283	40.128083	S	58193	6.9	K1III	115603.56+403851.7	11 56 03.56	+40 38 51.7	96
12 20 10.83	-22 10 32.3	12.336342	-21.824361	S	58574	6.28	K2III	120042.23-215014.9	12 00 42.23	-21 50 14.9	74
12 24 24.51	+43 05 15.0	12.406808	43.0875	S	58552	7.57	A2V	120024.44+443749.2	12 00 24.44	+44 37 49.2	100
12 24 24.51	+43 05 15.0	12.406808	43.0875	S	58552	7.57	A2V	120024.44+443749.2	12 00 24.44	+44 37 49.2	100
12 24 24.51	+43 05 15.0	12.406808	43.0875	S	58552	7.57	A2V	120024.44+443749.2	12 00 24.44	+44 37 49.2	100
12 25 59.69	-14 56 51.8	12.433247	-13.052278	S	58424	7.99	F2/F3V	115847.00-145156.2	11 58 47.00	-14 51 56.2	76
12 25 59.69	-14 56 51.8	12.433247	-13.052278	S	58424	7.99	F2/F3V	115847.00-145156.2	11 58 47.00	-14 51 56.2	76
12 27 00.77	-03 32 05.6	12.450214	-2.465111	S	58603	6.32	G8III:	120101.75-014604.8	12 01 01.75	-01 46 04.8	78
12 27 00.77	-03 32 05.6	12.450214	-2.465111	S	58603	6.32	G8III:	120101.75-014604.8	12 01 01.75	-01 46 04.8	78
12 33 18.43	+09 01 13.9	12.555119	9.020528	S	58948	4.12	G8III	120512.67+084358.2	12 05 12.67	+08 43 58.2	80
12 33 18.43	+00 91 13.9	12.555119	1.520528	S	58445	6.18	K2IV	115903.38+003150.2	11 59 03.38	+00 31 50.2	42
12 33 18.43	+09 01 13.9	12.555119	9.020528	S	58948	4.12	G8III	120512.67+084358.2	12 05 12.67	+08 43 58.2	80
12 34 51.12	+22 37 45.1	12.580867	22.629194	S	59421	7.53	A9III	121121.80+223537.1	12 11 21.80	+22 35 37.1	44
12 40 55.44	+27 08 20.9	12.682067	27.139139	S	58213	6.79	F2	115620.73+264046.6	11 56 20.73	+26 40 46.6	46
12 50 41.87	+20 32 04.9	12.844964	20.534694	S	58519	6.94	M4III	120004.76+192510.0	12 00 04.76	+19 25 10.0	88
12 50 41.87	+20 32 04.9	12.844964	20.534694	S	58519	6.94	M4III	120004.76+192510.0	12 00 04.76	+19 25 10.0	88
12 59 39.55	-03 48 43.0	12.994319	-2.188056	S	58368	6.93	F2	115806.88-042214.3	11 58 06.88	-04 22 14.3	48
12 59 39.55	-03 48 43.0	12.994319	-2.188056	S	58368	6.93	F2	115806.88-042214.3	11 58 06.88	-04 22 14.3	48
13 02 51.05	+13 28 24.2	13.047514	13.473389	S	62933	6.25	A7III	125349.67+122506.6	12 53 49.67	+12 25 06.6	82


Run Log
FITS Cubes
Pre Process
PS3
Merge
PS3 Out File
Calibration Analysis
Final Results
Papers & Catalogs

Auto PS L

Speckle Reduction

Double-Star FITS Cube or PSD File

WDS01036+6341_i_Mon Oct 21 2013_23.12.55_1099_PSD.fits — Browse...

Reference-Star FITS Cube or PSD File

HIP1960_i_Mon Oct 21 2013_23.07.44_1097_PSD.fits — Browse...

Filters

- [x] Gaussian Lowpass 35 pixel radius
- [x] Gaussian Highpass 2 pixel radius
- [x] Interference

Deconvolution

- ( ) None
- (•) Use Reference PSD at 100 percent
- ( ) Subtract Symmetrized PSF

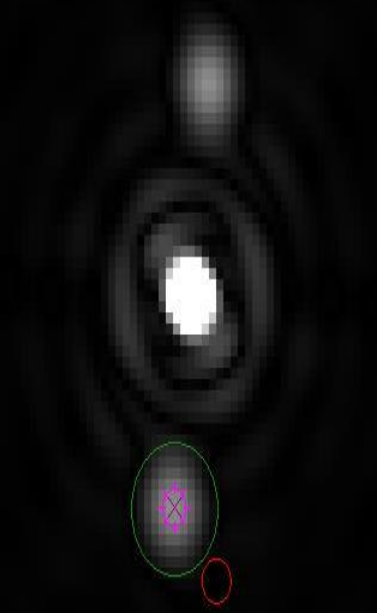
Reading image number 0 — Display PSD — Kill Process — [x] TopMost

Semi-Automatic Reduction

CSV File: Users\Russ\Documents\AA Kitt Peak 2013\14 01 21 KPNO_DB7.csv — Browse...

PSD Dir: 14 01 25 KP I Preprocessed Full Data Set — Browse...

<< 76 WDS01036+6341_i_Mon Oct 21 2013_23.12.55_1099.fits >>



Photometry/Astrometry

Aperture Diameters

Object	12
BG Inner	16
BG Outer	22

[ ] Automatic

Centroid (J2000)

X	N/A
Y	N/A
RA	N/A
Dec	N/A

[x] Lock to Peak

Background

Mean	0
SD	0

Object

Max	N/A
Signal	3020579
SNR	0
Mag	0.2312

PSF Size and Shape

- (•) RMS Diameter
- ( ) FWHM (Gaussian)
- ( ) FWHM (Moffat)

Pixels	N/A
Arcseconds	N/A
Aspect Ratio	13.1%
Angle	84.2°

[x] TopMost

Speckle Calibration

Delta -11.3 deg E 0.0116 AS / pix

Speckle Astrometry

Frame	352.798	deg	19.192	pix
Observed	4.098	deg	0.2226	AS

Comment ++

OutFile: PS3 Test Results.csv — Brwse

Remove Target — Save Results

Loading 0 | 254.275 | 66588.7109 | 600%

Optional Input File

TID Target ID. If the Target ID is a “D”, then PS3 will process this file, otherwise it will be ignored. This allows a master database to contain, for instance, single stars used for deconvolution, slit mask or drift calibrations, etc.
DSFN Double star (FITS cube) file name.
RSFN Reference star (FITS) cube file name
ThetaC Calculated (input) estimated, predicted, or last catalog reported double star position angle.
RhoC Calculated (input) estimated, predicted, or last catalog reported double star separation.
Delta Camera Angle (degrees). Camera orientation angle with respect to the sky.
E Plate scale (arc seconds / pixel).

Speckle Reduction

Double-Star FITS Cube or PSD File

WDS01036+6341_i_Mon Oct 21 2013_23.12.55_1099_PSD.fits

Browse...

Reference-Star FITS Cube or PSD File

HIP1960_i_Mon Oct 21 2013_23.07.44_1097_PSD.fits

Browse...

Filters

- [x] Gaussian Lowpass 35 pixel radius
- [x] Gaussian Highpass 2 pixel radius
- [x] Interference

Deconvolution

- ( ) None
- (•) Use Reference PSD at 100 percent
- ( ) Subtract Symmetrized PSF

Reading image number 0

Display PSD

Kill Process

[x] TopMost

Semi-Automatic Reduction

CSV File Users\Russ\Documents\AA Kitt Peak 2013\14 01 21 KPNO_DB7.csv

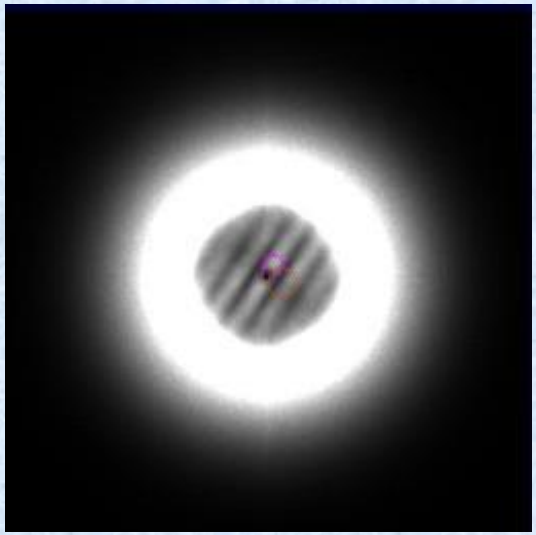
Browse...

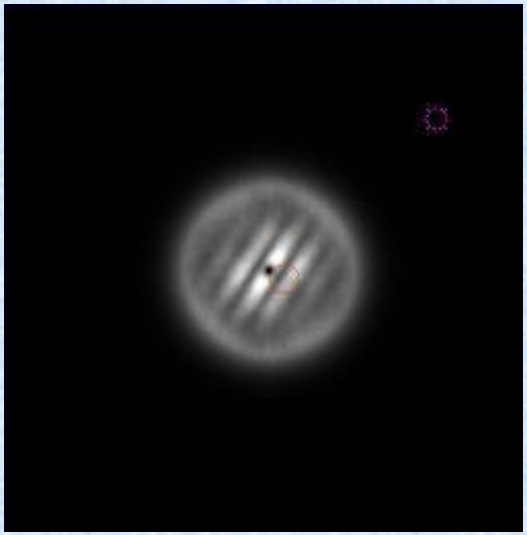
PSD Dir 14 01 25 KP I Preprocessed Full Data Set

Browse...

<< 76 WDS01036+6341_i_Mon Oct 21 2013_23.12.55_1099.fits >>

Gaussian Lowpass Filter

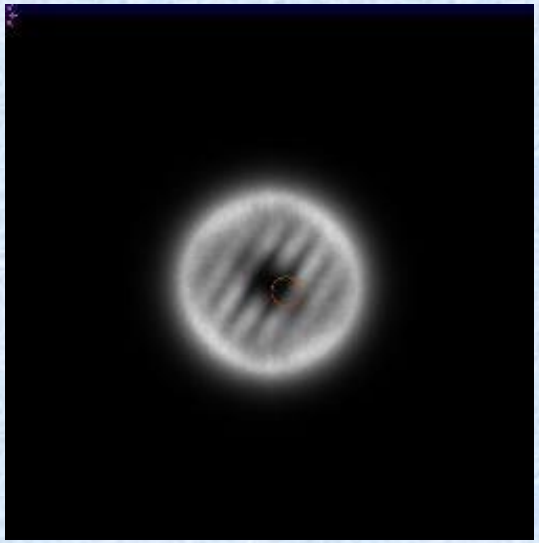


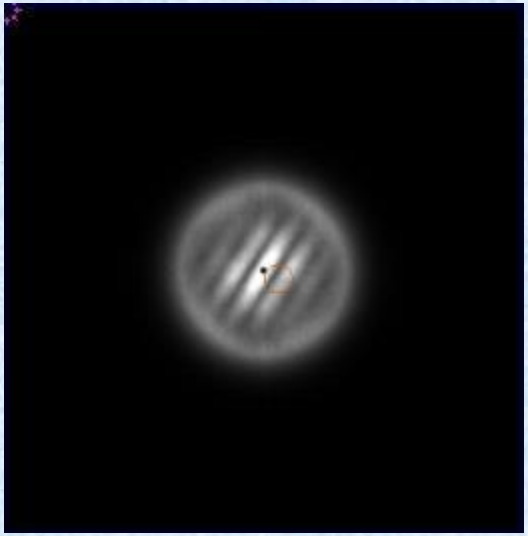


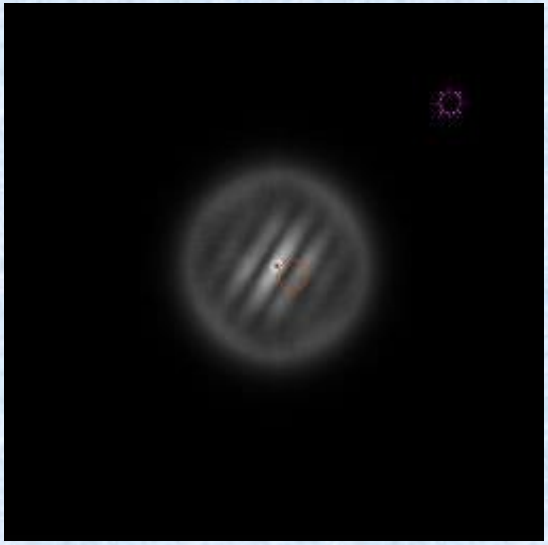
Too Wide

Too Narrow

Gaussian Highpass Filter

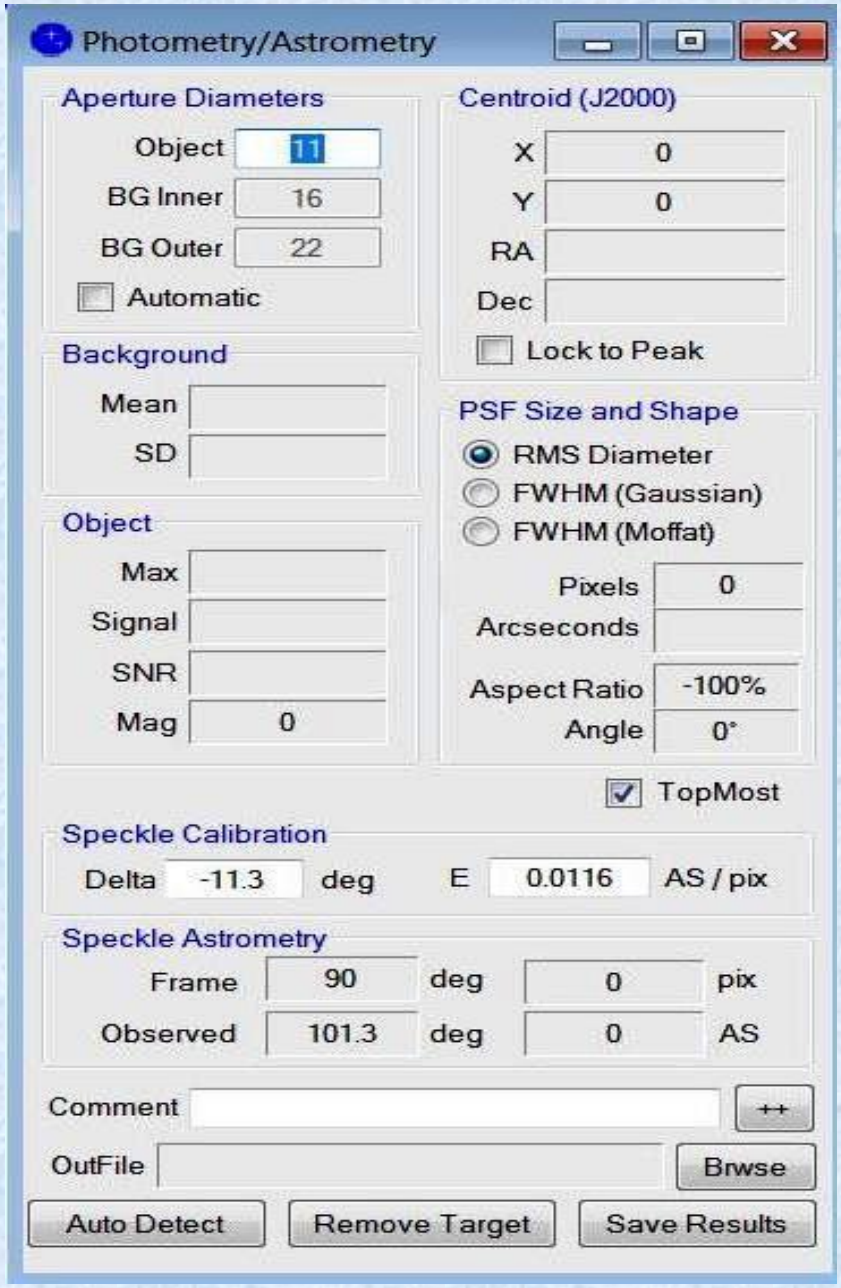






Too Wide

Too Narrow


Photometry/Astrometry
Aperture Diameters
Object 11
BG Inner 16
BG Outer 22
Automatic
Centroid (J2000)
X 0
Y 0
RA
Dec
Lock to Peak
Background
Mean
SD
PSF Size and Shape
RMS Diameter
FWHM (Gaussian)
FWHM (Moffat)
Pixels 0
Arcseconds
Aspect Ratio -100%
Angle 0°
Object
Max
Signal
SNR
Mag 0
TopMost
Speckle Calibration
Delta -11.3 deg
E 0.0116 AS / pix
Speckle Astrometry
Frame 90 deg 0 pix
Observed 101.3 deg 0 AS
Comment
++
OutFile
Brwse
Auto Detect
Remove Target
Save Results

Num	Target	ThetaO	ThetaC	ThetaO-C	RhoO	RhoC	RhoO-C	ThetaF	RhoF	ApD	RelInt	DMag	Comm
24	00283+6344	111.831	91	20.831	0.3857	0.4	-0.0143	100.531	33.251	12	0.2216		
76	01036+6341	4.098	19	-14.902	0.2226	0.3	-0.0774	352.798	19.192	12	0.2312		
1	00022+2705	228.354	273	-44.646	0.166	0.8	-0.634	217.054	14.312	12	0.0571		Close one!
2	00024+1047	69.213	73	-3.787	0.2468	0.2	0.0468	57.913	21.273	12	0.0535		Prediction close.
3	00029+4715	294.729	295	-0.271	1.5947	1.6	-0.0053	283.429	137.47	12	0.155		Wide and easy. Prediction right on.
4	00046+4206	105.922	95	10.922	0.1304	0.1	0.0304	94.622	11.244	5	0.0486		Very close but good solution.
5	00055+3406	307.239	304	3.239	0.15	0.2	-0.05	295.939	12.933	5	0.0675		Also close. Prediction off a bit.
6	00073+0742	321.309	323	-1.691	0.3515	0.4	-0.0485	310.009	30.3	11	0.2919		Easy. 2nd & 3rd order images.
7	00085+3456	52.817	79	-26.183	0.1383	0.1	0.0383	41.517	11.922	5	0.1508		Close. Solution not stable.
13	00118+2825	67.367	69	-1.633	0.4474	0.5	-0.0526	56.067	38.571	11	0.1454		Easy. Prediction close.
14	00121+5337	317.605	313	4.605	0.3344	0.3	0.0344	306.305	28.827	11	0.1709		Very easy.
18	00174+0853	305.499	307	-1.501	0.1556	0.2	-0.0444	294.199	13.417	5	0.0411		Difficult. Not quite stable.
19	00174+0853	303.657	307	-3.343	0.1553	0.2	-0.0447	292.357	13.386	11	0.1254		Easy and stable.
20	00205+4531	96.724	102	-5.276	0.656	0.7	-0.044	85.424	56.553	11	0.0896		Verey easy. Clean!
21	00209+1059	118.746	117	1.746	0.7557	0.7	0.0557	107.446	65.145	11	0.1286		Very easy. Clean.
23	00251+4803	273.507	242	31.507	0.3186	0.3	0.0186	262.207	27.464	11	0.0335		Prediction off, but not too far.

ROBOTIC